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A sociocultural framework for understanding partner preferences of women and men: Integration of concepts and evidence

Marcel Zentner[1] and Alice H. Eagly[2]

[1]Department of Psychology, University of Innsbruck, A-6020, Innsbruck, Austria

[2]Department of Psychology, Northwestern University, Evanston, IL 60208-2710, USA

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In the current sociocultural framework for understanding mating preferences, we propose that gender roles affect sex differences and similarities in mate preferences. Gender roles, in turn, are shaped by the unequal division of labour between women and men. As a consequence, mating preferences and choices should converge across the sexes as the weakening of this division puts the sexes in more similar social roles in their societies. To evaluate these assumptions, we review relevant findings from three domains that show variability in gender roles: (a) cross-cultural variability related to differences in societies' division of labour, (b) historical variability related to temporal changes in the division of labour, and (c) individual variability in gender attitudes that reflects the gradual and uneven spread of shifts toward gender equality throughout each society. The bringing together of multiple lines of evidence puts the sociocultural framework on a new and more secure foundation.

Keywords: Mate preferences; Sex differences; Gender equality; Social role theory.

In this review, we explore sociocultural influences on the mating preferences of women and men. In recent decades, the emphasis among psychologists has been on interpreting these preferences as deriving from an evolved, universal, species-typical mental architecture that is functionally designed to solve reliably recurring problems faced by humans' ancestors (Buss, 2011; Buss & Schmitt, 2011).

Correspondence should be addressed to: Marcel Zentner, Department of Psychology, University of Innsbruck, Innrain 52f, A-6020, Innsbruck, Austria. E-mail: marcel.zentner@uibk.ac.at

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Psychologists have taken less interest in examining the influence of the current environment on mating behaviour. This neglect is surprising given that an understanding of how nature and nurture interact in influencing mating behaviour is a fundamentally important scientific issue. In building a science of mating behaviour, minimising nurture does not honour nature, but rather invites scepticism about its overriding importance. In order to balance scientific discourse in this important area of research, we offer an account that prioritises sociocultural influences. Although several individual studies have addressed these influences, what has been missing is an integration of these findings and a specification of the ways in which sociocultural influences may be demonstrated to act on mate preferences. In providing this analysis, we invite readers to take into account several interlocking types of evidence when weighing the importance of sociocultural influences on mating preferences and related behaviours.

Psychologists' neglect of sociocultural influences on mating is particularly surprising in light of the highly variable situations faced by women and men, both across contemporary societies and in recent historical periods, characterised by rapid technological, ecological, and other transformations. For example, the restrictions and opportunities that societies create for their women and men differ remarkably in contemporary Western postindustrial societies, such as the United States and Germany, compared with highly sex-segregated Islamic societies, such as Saudi Arabia and Afghanistan. Also notable, if less extreme, are differences within cultures and nations that are due to variations in socioeconomic background and value systems. By processes that we explain in this review, such differences affect mating preferences and choices.

The overall theme of this review is that people's mating preferences and resultant choices reflect their current environment in ways that sometimes favour sex-related differences and sometimes sex-related similarities. Consistent with the assumptions of social role theory (e.g., Eagly & Wood, 2012; Wood & Eagly, 2012), this variability emerges through the mediation of active, constructive processes by which people react to the contingencies that they perceive in their current and anticipated future environments. Specifically, people desire a mate who will enable them to minimise the costs and maximise the benefits associated with their own anticipated life outcomes. Similar propositions have been made in the context of social exchange and equity theories (Rusbult, Martz, & Agnew, 1998; Walster, Walster, & Berscheid, 1978). Extending the perspectives of such theories, we emphasise gender-specific beliefs about anticipated costs and benefits of mates with differing attributes as these beliefs are transmitted through social and cultural norms and in turn affect individual cognitions and motivations (Richerson & Boyd, 2005).

Thus, men and women prefer and choose mates whose attributes they believe will facilitate their well-being in the circumstances that they face in their own lives, and these beliefs are shaped by people's expectations for women and men —that is, societal gender roles. To facilitate this analysis, we distinguish the cultural concept of gender roles from the social category of sex, which we define

by its common-language meaning as "either of the two main categories (male and female) into which humans and many other living things are divided on the basis of their reproductive functions" (Sex, n.d.).

The aim of this article is to review and integrate empirical evidence from various research methods that are relevant to a sociocultural framework for understanding mating preferences. We also acknowledge the explanations offered by other theorists, notably adherents of evolutionary psychology. However, providing a review of research framed by evolutionary psychology is beyond the scope of this article, and others have already accomplished this task (e.g., Buss, 2013). Moreover, the relevant literature (e.g., on menstrual cycle effects) is large and often contested by critics (e.g., see exchange between Gildersleeve, Haselton, & Fales, 2014; Wood, Kressel, Joshi, & Louie, 2014). Furthermore, our analysis extends beyond the issues typically addressed by evolutionary psychologists to sociocultural, historical, and individual variability in mating preferences and choices. We thus explore the variability in mate preferences that all theories of mate preferences are charged with explaining.

Winning a debate with evolutionary psychologists is not the purpose of this review. Rather, our goal is to specify mechanisms that explain important yet insufficiently understood phenomena in the area of mate preferences. Specifically, mate preferences of women and men vary considerably in three major ways: (a) across cultures, (b) across generations within the same culture, and (c) across individuals. These multiple forms of variation have eluded a psychological explanation that is both parsimonious and applicable to all three forms of variability. In what follows, we articulate a framework that represents a major step toward such an explanation. Although drawing primarily on a sociocultural perspective, the framework also acknowledges the importance of biological factors, as will become apparent in later sections of this review.

Some features of the current review should be mentioned at the outset. First, to help define the boundaries of social role theory, we critically examine findings that may contradict its predictions. In that section, we also point to methodological challenges and other unresolved issues. Second, our review is confined to heterosexual partner preferences. This restriction does not mean that we consider homosexual partner preferences unimportant. On the contrary, we believe that studying them could help to elucidate various unresolved issues. However, the corpus of data on homosexual partner preferences is not advanced enough to warrant closer scrutiny at this point. Third, our review focuses on partner preferences as they relate to long-term marital or partner relationships. Generalisability to preferences in short-term relationships cannot be assured, given their many differences from preferences in long-term relationships (e.g., O'Connor, Pisanski, Tigue, Fraccaro, & Feinberg, 2014; see Buss & Schmitt, 1993).

SOCIOCULTURAL THEORY OF MATE PREFERENCES AND CHOICES

The core phenomena that the current sociocultural theory of mate preferences and choices seeks to explain are the tendencies of men and women to prefer and choose partners in a manner that accommodates the differing restrictions and opportunities that a society maintains for them. Potential partners' traits gain meaning within the cultural and personal circumstances of individuals' lives. Through the action of constructive psychological processes, people's behaviours, including their mate preferences and choices, are contingent on a range of individual, situational, and cultural conditions.

Humans' responsiveness to rapidly changing environments may itself be an evolved adaptation that arose in response to strong, complex variability in the settings inhabited by early hominins. Thus, according to the variability selection hypothesis (Potts, 2012), the extreme environmental variability present during human evolution produced new adaptations that enhanced the ability of the human species to thrive in diverse and changing environments (see also *pulsed climate variability hypothesis*; Maslin, Shultz, & Trauth, 2015). The resulting *adaptability* is thus "the ability of an organism to adjust to change in its surroundings, to inhabit a wide diversity of environments, and to interact with its surroundings in novel ways" (Potts, 2012, p. 154). With their evolved capacity to innovate and to share information, humans produced a cumulative culture that enables beliefs and practices to become consensual within societies, yet open to modifications based on new information and technology (Eastwick, 2009; Richerson & Boyd, 2005; Tennie, Call, & Tomasello, 2009).

The view of many evolutionary psychologists is that human psychology is to a great extent governed by genes that evolved in ancient times. These genes endowed humans with a mind equipped with domain-specific programs that were designed to solve a set of consistently occurring adaptive problems that hominins faced in the Pleistocene era, the so-called Environment of Evolutionary Adaptedness (e.g., Tooby & Cosmides, 1992). These assumptions are quite different from more recent adaptationist views that emphasise extreme environmental variability and changing adaptive challenges present during human evolution that would have favoured a brain capable of responding with flexibility to changes in the physical and social environments (Heyes, 2012; Lieberman, 2012; Potts, 2012). The considerable variety in the collaborative male–female division of labour that exists across societies and time is one expression of this learning-mediated flexibility in behaviour and thought (e.g., Janssens, 1997; Wood & Eagly, 2002).

As we propose in this article, the key to understanding the sociocultural influences on mate selection is the analysis of divisions of labour. The origins of the division of labour lie mainly in evolved physical differences between the sexes, especially women's reproductive activities and men's greater size and

strength, as these factors interact with the demands of the current sociocultural, economic, and ecological environment (Wood & Eagly, 2002, 2012). Women's reproductive activities of pregnancy and lactation act as constraints on behaviour because they cede to women the energy-intensive and time-consuming activities of gestating, nursing, and caring for infants (Huber, 2007; Rippeyoung & Noonan, 2012). These activities can make it difficult for women to participate as much as men in tasks that require speed of locomotion, uninterrupted activity, extended training, or long-distance travel. In addition, greater size and strength equip men to engage in especially strength-intensive manual labour, including mining, ploughing, and warfare (e.g., Pitt, Rosenzweig, & Hassan, 2012).

To a lesser extent, the division of labour may also reflect biologically influenced sex differences in temperament that appear in young children and are manifested in adult personality. The largest temperamental differences identified by psychological research consist of the greater surgency, including greater motor activity, that is more typical of boys than girls and the greater effortful control, or self-regulatory skill, that is more typical of girls than boys (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006; Zentner & Shiner, 2012). Consistent with psychologists' increasing understanding that these early-emerging temperamental differences have implications for adult personality (e.g., McCrae et al., 2000), adult women score somewhat higher on personality measures of agreeableness and conscientiousness, whereas adult men score higher on measures of sensation seeking and risk taking (Cross, Copping, & Campbell, 2011; Schmitt, Realo, Voracek, & Allik, 2008; Soto, John, Gosling, & Potter, 2011). We thus suspect that evolved temperamental differences, along with profound bodily sex differences (female reproduction, male size and strength), contribute to a division of labour wherein the sexes sort themselves, to varying extents, into the different social roles that are constituents of each society's socioeconomic structure.

A basic premise of sociocultural theory is that a society can act to accentuate or minimise the inequalities in the division of labour, thereby exerting a major influence on sex-differentiated behaviour. Unequal distributions of women and men into family and occupational roles not only shape role-consistent skills and dispositions, but also form contrasting gender roles, or stereotypes, about women and men. These gender roles foster sex-differentiated dispositions and behaviours, including mate preferences (Eagly & Wood, 1999, 2012; Wood & Eagly, 2002, 2012).

Gender roles, which are shared beliefs about the attributes of women and men, reflect the division of labour because people infer these traits from observations of everyday behaviours, which are ordinarily constrained by each sex's occupational, family, and other social roles (Eagly & Steffen, 1984; Koenig & Eagly, 2014). Consistent with the correspondent inference principle (Gilbert & Malone, 1995), people thus infer the traits of men and women from observations of their behaviour and generally do so spontaneously (Uleman, Newman, & Moskowitz, 1996). For example, given a homemaker–provider division of labour, people disproportionately

observe women and girls engaging in domestic behaviours such as caring for children and cooking and therefore infer communal qualities; they also observe men and boys engaging in various activities that are marketable in the paid economy and therefore infer agentic qualities (Eagly & Steffen, 1984).

Additionally important in industrialised societies are sex differences in vocational interests, with men preferring to work with things and women with people (Su, Rounds, & Armstrong, 2009). These differences in vocational interests are reflected in occupational sex segregation, whereby women usually dominate service and caring roles (administrative assistant, nurse, teacher of children), and men dominate roles involving making and interacting with things (carpenter, engineer, mechanic; Charles & Grusky, 2004; Lippa, Preston, & Penner, 2014). Observations of this aspect of the female–male division of labour also contribute to individuals' inferences of differing male and female traits (Koenig & Eagly, 2014).

The gender roles, or stereotypes, that form from observations of women and men in their social roles influence behaviour in role-appropriate directions by working through a trio of biosocial mechanisms (Eagly & Wood, 2012; Wood & Eagly, 2012). The first of these proximal mechanisms involves *behavioural confirmation of gender roles*, which occurs as people respond to others' expectations with or without conscious awareness of the link between their own behaviour and those expectations. People thus learn that behaviour that is inconsistent with gender roles often has social costs, and that behaviour that is consistent with gender roles elicits more positive reactions (e.g., Brescoll, 2011; Rudman, Moss-Racusin, Glick, & Phelan, 2012). Favourable and unfavourable reactions from others make it easier and pleasanter to conform to gender roles than to ignore or counter them. For example, social norms encouraging men to have wives who are good cooks earn them admiration for such choices.

The second mechanism pertains to people's *personal acceptance of gender norms* as standards for their own behaviour. Individuals thus regulate their own behaviour to be consistent with gender norms to the extent that they have incorporated these beliefs into their self-concepts (Wood & Eagly, 2015). Men and women evaluate themselves favourably for behaviours consistent with their own personal gender standards and unfavourably for behaviours that depart from these standards (e.g., Wood, Christensen, Hebl, & Rothgerber, 1997). These self-regulatory processes foster stereotypic sex differences to the extent that people have internalised conventional gender norms. For example, men who have personally accepted traditional norms will feel proud of themselves if they have a wife who is a good cook.

The third mechanism pertains to *hormonal changes*, especially in testosterone, oxytocin, and arginine vasopressin, which generally act to facilitate culturally masculine and feminine behaviours in relevant social contexts (van Anders, Goldey, & Kuo, 2011). These biological processes, which stem from ancient selection pressures, implicate hormones and related neural structures that are central to human sex differences. Sexual intimacy is associated in particular with

both testosterone and oxytocin, and these hormones are recruited to facilitate the search for mates and to support mating behaviours (Carter, 2014; Roney & Gettler, 2015). In summary, all three sets of processes—normative, self-regulatory, and hormonal—work together to yield both differences and similarities in male and female behaviour, including in mating preferences and choices.

Consistent with the emergence of the male breadwinner family along with industrialisation and urbanisation in Europe and North America (Janssens, 1997), a common marital arrangement involved an exchange between men's wage labour and women's domestic labour (Becker, 1981; Coltrane & Shih, 2010). The gender roles that resulted from this role segregation influenced mate preferences to take a particular form. Obvious benefits flowed to women from seeking partners who provided economic resources and to men from seeking partners who nurtured offspring and performed other domestic work. Cumulative culture incorporated a societal consensus about the appropriateness of this marital exchange between women's domestic labour and men's wage labour and the desirability of long-term mates who manifested the qualities that facilitated this exchange.

This state of society would call for women to choose husbands for their provider qualities, which may encompass competitiveness, industriousness, and intelligence, and for men to choose wives for their domestic qualities, which encompass capacities for being a nurturing mother and a competent housekeeper and cook. Other mate qualities could function as proxies for these traits, in the manner that women's younger age signals their child-bearing capacity to men, and men's older age signals their increased status and resources to women. Moreover, the older man–younger woman combination favours greater male power and control, consistent with the status inequality inherent in the traditional division of labour.

With respect to status inequality, we acknowledge Buss and Barnes's (1986) concept of *structural powerlessness*—a term describing a social role explanation of mate selection, which they contrasted with their own evolutionary psychology theory: "Because of their restricted paths for individual advancement, women seek in mates those characteristics associated with power such as earning capacity and higher education" (Buss & Barnes, 1986, p. 569). The key hypothesis that Buss and Barnes derived from this principle was "that sex differences in preferences should diminish as the power balance in society approaches equity between sexes" (Buss & Barnes, 1986, p. 569). The authors later rejected this structural powerlessness concept as invalid, along with predictions derived from it (see Buss, 1989, 2011).

It is important to note that the structural powerlessness concept consists of one simple idea about power, whereas the theory that we introduce emphasises the agentic versus communal content of male and female gender roles, not merely greater male status and power. Moreover, our approach is elaborated to consider (a) the origins of the male–female division of labour, including the evolutionary origins of humans' inherent flexibility in response to external conditions, and (b) the social, psychological, and biological mechanisms by which the division of labour influences mate preferences and related cognitions and behaviours.

A key proposition of our sociocultural approach to mating is that the desirability of provider qualities and older age in husbands and domestic qualities and younger age in wives reflects a social consensus that developed because these qualities were useful at a given time in human history in particular cultural contexts. As circumstances have changed, this consensus is crumbling. Gender inequalities have not disappeared but have been substantially reduced in many nations over the last century, particularly during the last 50 years. To appreciate the extent of these recent changes, consider three examples. In Switzerland, women were granted the right to vote at the federal level as late as 1971. In Germany, only unmarried women could become civil servants ("Beamten") until 1951. As a consequence, women could be dismissed from the civil service when they married, and until 1977, they officially needed their husbands' permission to be employed (von Wahl, 1999, p. 123). Until reunification with East Germany in 1990, German children of single mothers were assigned a legal guardian ("Amtspfleger"). In the United States, until the 1980s, female flight attendants were required to be single when they were hired and could be fired if they married (World Bank, 2012, p. 58).

The substantial decrease in gender inequalities has gradually led to greater similarity in the social roles that women and men typically occupy in many societies. Our sociocultural theory of mating preferences predicts that, generally, the greater the similarity in social roles across the sexes, the more similar female and male mating preferences and choices will be. The word "generally" here indicates that we do not predict a nonspecific association between gender equality and a reduction of sex differences across *all* mate preferences. Consistent with our emphasis on the division of labour, we expect the convergence in mating preferences across the sexes to be most pronounced where the gender gap in market work versus housework has diminished the most. Moreover, we expect that the convergence in these preferences is stronger to the extent that attributes are informative concerning a mate's provider and homemaker qualities (see subsection "Ambiguities Concerning Men's Greater Emphasis on a Mate's Physical Attractiveness").

A distinctive aspect of our theory is that the predicted convergence should be apparent across three domains in which the mate preferences of women and men vary in major ways: (a) across cultures, (b) across historical periods within the same culture, and (c) across individuals. Cross-cultural variability relates to differences in societies' division of labour, historical variability relates to temporal changes in this division of labour, and individual variability relates to differences between individuals in internalised gender roles, which in turn reflect the gradual and uneven spread of social change within each society. These types of variation in mate preferences have received unequal and, in the case of historical data, minimal attention, resulting in theories of limited explanatory power. In what follows, we particularise the predictions for each of the three domains, review and integrate the key studies of the respective research literatures, and highlight their distinct research strategies.

RESEARCH STRATEGIES AND EVIDENCE

Cross-cultural research

An examination of cross-cultural patterns in men's and women's mate preferences has great importance from both a sociocultural and an evolutionary psychology viewpoint. Thus, Buss noted that "without empirical evidence for universal sex differences in sexual psychology, many tenets of Sexual Strategies Theory would collapse" (Buss, 1998, p. 29; see also Buss & Schmitt, 1993). From a sociocultural perspective, cross-cultural patterns are also fundamental because they yield insight into associations between variations in gender roles and sex differences in mate preferences. In line with our assumptions about the division of labour, we expect convergence of relevant male and female mate preferences to the extent that gender equality increases across countries.

One of the first and most comprehensive studies of cross-national variation in mate preferences was conducted by Buss and colleagues, who assessed mate preferences across 37 countries. These researchers showed that, overall, women placed higher value on potential mates' earning prospects, and men on potential mates' youth and attractiveness (Buss, 1989; Buss et al., 1990). This pattern, which received support in subsequent studies (e.g., Feingold, 1992; Zentner & Mitura, 2012), is usually cited in support of evolutionary psychology models. However, these findings are equally supportive of a social role theory of mate preferences because women have not achieved equality with men even in the most gender-equal countries. This phenomenon can be discerned in the gender inequality data from the World Economic Forum presented in Table 1 (Hausmann, Tyson, Bekhouche, & Zahidi, 2014). As can be seen, countries ranking highest on gender equality are about as distant from the equality benchmark as they are from the most gender-unequal countries. For example, the figure for Germany is .7780—a score that is slightly closer to the score of Saudi Arabia (.6059) than it is to the equality benchmark score of 1.00.

The inequalities in relatively gender-equal nations entail, for example, men's greater wage labour and women's greater domestic labour, as well as considerable occupational sex segregation (Charles & Grusky, 2004; Lippa et al., 2014; Pettit & Hook, 2009). The differing amounts of time that men and women allocate to care and related domestic work are one factor driving segregation and the consequent earnings gaps. In most countries, regardless of gender parity or affluence, women bear disproportionate responsibility for housework and care, whereas men are responsible for more market work. This uneven time allocation is illustrated in Figure 1.

In addition, women do not ordinarily enjoy equal opportunity for more lucrative jobs or promotions because of male-dominated informational networks and other factors (see Addison, Ozturk, & Wang, 2014; Koch, D'Mello, & Sackett, 2015), and they face difficulties in attaining positions that grant

TABLE 1
Gender gap index (GGI) 2014: Countries ranked top and bottom

Rank	*Country*	*Gender gap index*
	Top 15 countries	
1	Iceland	.8594
2	Finland	.8453
3	Norway	.8374
4	Sweden	.8165
5	Denmark	.8025
6	Nicaragua	.7894
7	Rwanda	.7854
8	Ireland	.7850
9	Philippines	.7814
10	Belgium	.7809
11	Switzerland	.7798
12	Germany	.7780
13	New Zealand	.7772
14	Netherlands	.7730
15	Latvia	.7691
	Others	
20	United States	.7463
26	United Kingdom	.7383
	Bottom 15 countries	
128	Oman	.6091
129	Egypt	.6064
130	Saudi Arabia	.6059
131	Mauritania	.6029
132	Guinea	.6005
133	Morocco	.5988
134	Jordan	.5968
135	Lebanon	.5923
136	Côte d'Ivoire	.5874
137	Iran	.5811
138	Mali	.5779
139	Syria	.5775
140	Chad	.5764
141	Pakistan	.5522
142	Yemen	.5145

The GGI is calculated by converting all data into female/male ratios. For example, a country with 20% of women in ministerial positions is assigned a ratio of 20 women/80 men, thus a value of .25. The equality benchmark is considered to be 1, meaning equal numbers of women and men (for further information on the calculation of the GGI, see Hausmann et al., 2014, pp. 5–6).

organisational and political power (World Bank, 2012). Thus, because of several forms of disadvantage, women do not have the same economic resources as men do, regardless of national gender parity levels. Therefore, women are inclined to seek a mate who can compensate for the missing resources. Because of the pervasiveness of this gender inequality around the world, female–male

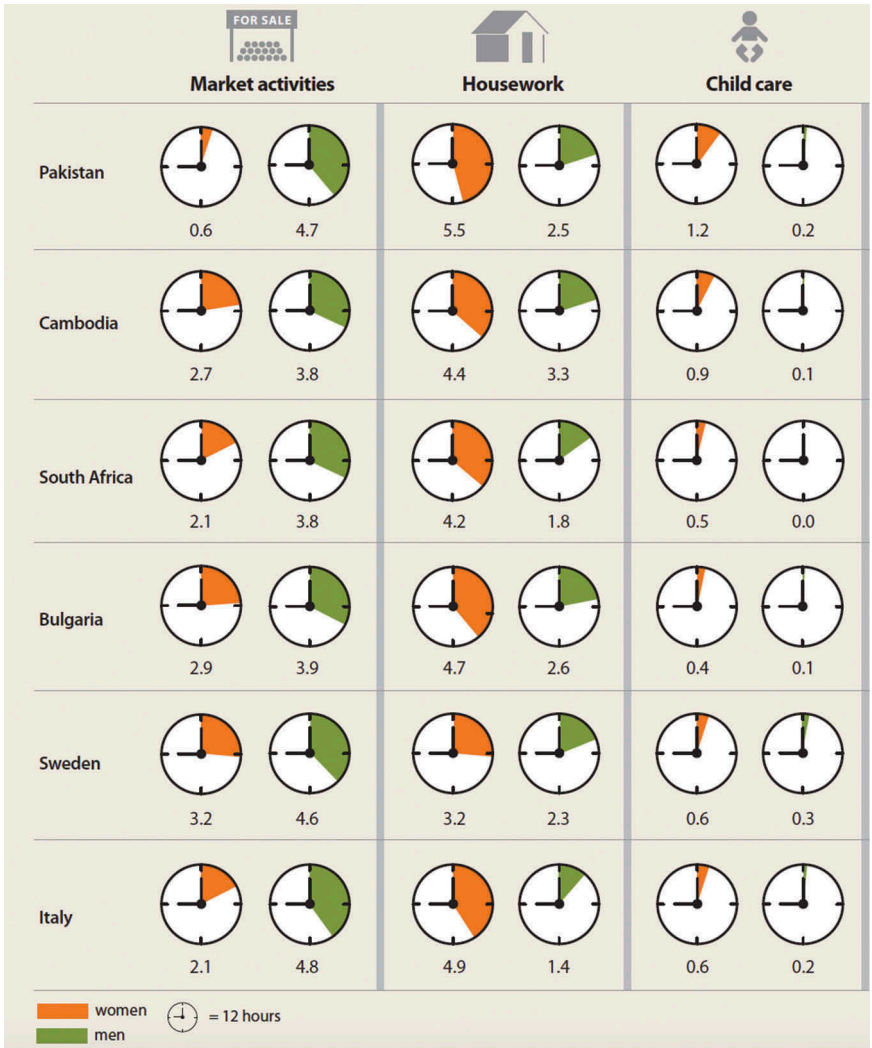

Figure 1. Uneven allocation of time to housework versus market activities (paid employment) of women and men in selected countries across the world. Within each domain (market activities, housework, child care), the left column illustrates women's time allocation; the right column men's time allocation. To view this figure in colour, please visit the online version of this Journal. Source: World Bank (2012, p. 19). Reprinted with permission from Berniell and Sánchez-Paramo (2011).

differences in partner preferences should show minimal variation across cultures *in their overall direction*, whereby women, for example, consider good financial prospects a more important partner selection criterion than men do. Nevertheless,

there are substantial gradations in gender inequalities across nations. From our sociostructural point of view, these gradations should manifest in the *magnitude* of sex differences in partner preferences. More specifically, the greater the gender equality in societies, the less likely women and men are to differ in their preferences for relevant mate attributes such as the desire for a mate with good financial prospects.

In support of this prediction, several studies produced positive relations between societal gender inequality and the magnitude of sex differences in mate preferences (Eagly & Wood, 1999; Eastwick et al., 2006; Kasser & Sharma, 1999). Clearer and more comprehensive cross-cultural evidence was recently provided by Zentner and Mitura (2012). In their study, gender inequality between nations was assessed by the gender gap index (GGI), a measure that overcomes many of the limitations of previous indexes (see Else-Quest & Grabe, 2012; Hausmann et al., 2014). For example, the measures of gender parity used in previous work, such as the gender empowerment measure (GEM) or the gender-related development index (GDI), were not designed to capture the gap between men and women independently of other cultural and socioeconomic factors. Thus, countries with low absolute levels of income could not approach gender equality on these measures, even if there were total parity in incomes. In recognition of this and other limitations, the United Nations stopped publishing the GDI and GEM.

The GGI is more comprehensive than previous measures of gender equality. It includes 14 single indicators grouped in four dimensions: economic (e.g., labour force participation, wage equality), political (e.g., women in parliament, heads of state), educational attainment (e.g., literacy ratio, higher education enrolment), and health (e.g., life expectancy ratio, sex ratio at birth). Another distinctive feature of the GGI is the emphasis on tangible outcomes rather than efforts or means invested in enhancing gender equality (Hausmann et al., 2014). For example, this index includes a variable representing the gap between men and women in high-skilled jobs, such as legislators, senior officials, and managers (an outcome variable), but does not include data on length of maternity leave (a policy variable). Because of these distinctive features, rankings of nations derived from the GGI can deviate markedly from rankings derived from older measures, as shown by Zentner and Mitura (2012, Table 1).

Using the GGI, Zentner and Mitura (2012) conducted two studies relating gender equality to mate preferences. In Study 1, participants from 10 nations with gender inequality that ranged from small to large magnitude according to the GGI responded to an online survey about mate preferences. Participants rated the importance of partner traits that are deemed critical for testing the evolutionary hypothesis—namely, good financial prospects, ambition/industriousness, good looks, chastity, ideal age difference, favourable social status, and education and intelligence (see Buss, 1989; Gangestad, Haselton, & Buss, 2006). To assess beliefs related to the domestic aspects of the division of labour, the authors also

included good cook and housekeeper (Eastwick et al., 2006). As in the studies by Buss (1989), the answer format consisted of a 4-point scale ranging from 0 (*irrelevant or unimportant*) to 3 (*indispensable*). The questionnaire was translated into the languages of the 10 selected nations: Finnish, German, Portuguese, Polish, Italian, Spanish, Korean, and Turkish. Online advertisements were placed in the target countries to help raise awareness of the survey in as wide a population as possible, resulting in a final sample of 3177 sociodemographically diverse participants (2124 females, 1053 males). The 2:1 female-to-male ratio was characteristic of most national samples, which ranged from $N = 101$ for Portugal to $N = 504$ for Finland ($Mdn = 304$, $SD = 134$) and were broadly similar in their sociodemographic composition.

In Study 2, the authors examined whether the findings would be replicated by using a dataset with different samples, different nations, and an altogether different sampling method. To this end, they drew on sex differences in mate preferences reported in the 37-culture study by Buss (1989), computed effect sizes of the national sex differences and correlated them with the respective GGI scores. The use of the GGI is appropriate in this context even though this measure and its precursors, the GEM and GDI, were introduced several years after the 37-culture study. Their appropriateness derives from evidence that the *relative* position of the included countries on measures of gender equality is highly stable over time. Between 1995 and 2009, GEM scores correlated $r = .87$, and between 2006 and 2014, GGI scores correlated $r(29) = .96$, $p < .01$.

The results from Study 1 reproduced the well-known and widely replicated sex differences in mate preferences, such as women's greater preference for a partner with good financial prospects and men's greater preference for a younger partner. Crucially, however, the magnitude of female–male differentiation lessened in direct proportion to increases in nations' gender equality for just about each of the specific mate preferences that evolutionary psychologists have interpreted as following from evolved adaptations.

The ubiquity of this trend is worth emphasising in light of a critique published in *Evolutionary Psychology* that had wholly misrepresented the finding as holding on the aggregate level only (Schmitt, 2012). In actual fact, of eight mate preferences, only one did not entirely conform to this trend: "good looks", which yielded inconsistent findings (see the "Contrary Evidence" section, below, for further discussion). Because of the substantial consistency of the trend across individual mate preferences, the authors created a composite index reflecting the overall degree of male–female differentiation in mate preferences for each nation. The negative linear relationship between this composite index and nations' gender equality is illustrated in Figure 2 for the authors' own study and Figure 3 for data from Buss's (1989) 37-cultures study.

The strongest reductions in male–female differentiation with rising gender parity were observed for the difference in preferred partner age, $r(8) = -.65$ in

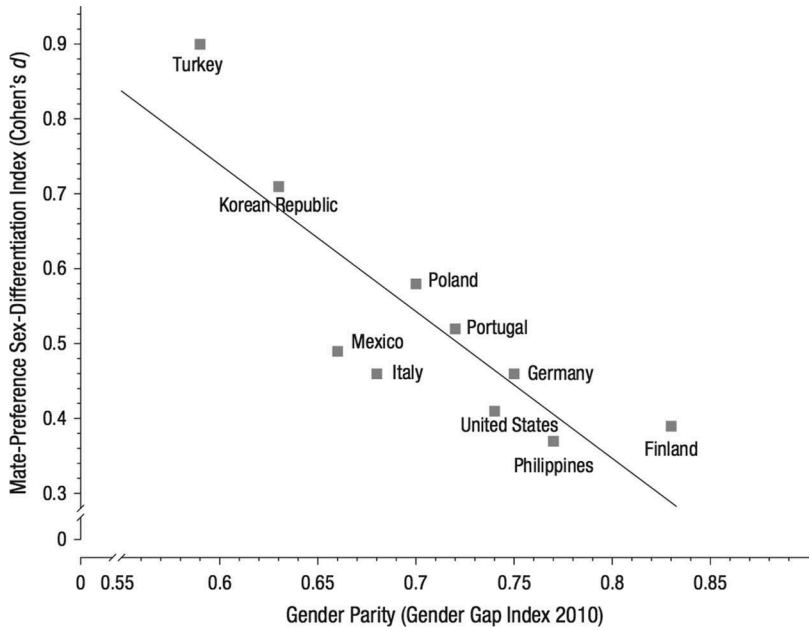

Figure 2. Nations' gender gap index (GGI) score by gender gap in mate preferences (in Cohen's effect size *d* units). $N = 10$. Reproduced with permission from Zentner and Mitura (2012). © 2012 Sage Publications. Permission to reuse must be obtained from the rightsholder.

Study 1, and $r(29) = -.73$ in Study 2, indicating that the traditional sex difference in partner preference for age (a younger age preferred by men and a higher age preferred by women) erodes with increasing national levels of gender parity. As an illustrative example, men considered their ideal female partner to be on average 3.97 years younger than themselves in the country with the lowest gender equality of Study 1—Turkey. In Finland, the country with the highest gender equality of Study 1, men considered their ideal female partner to be on average only 1.51 years younger. In women, the reverse trend was evident (ideal partner older by 3.61 vs. 2.05 years in Turkey and Finland, respectively).

Other strong associations with gender parity emerged with regards to education/intelligence: $r(8) = -.84$ in Study 1 (not measured in Study 2); good financial prospects: $r(8) = -.76$ in Study 1, $r(29) = -.33$ in Study 2; chastity: $r(8) = -.55$ in Study 1; $r(29) = -.43$ in Study 2. Moreover, gender differentiation in mate preferences was sizably related not only to the composite gender gap index, but also to its individual subcomponents, notably economic opportunity, political empowerment, and educational attainment. This pattern suggests that the erosion of gender differences in mate preferences found with increasing levels of national

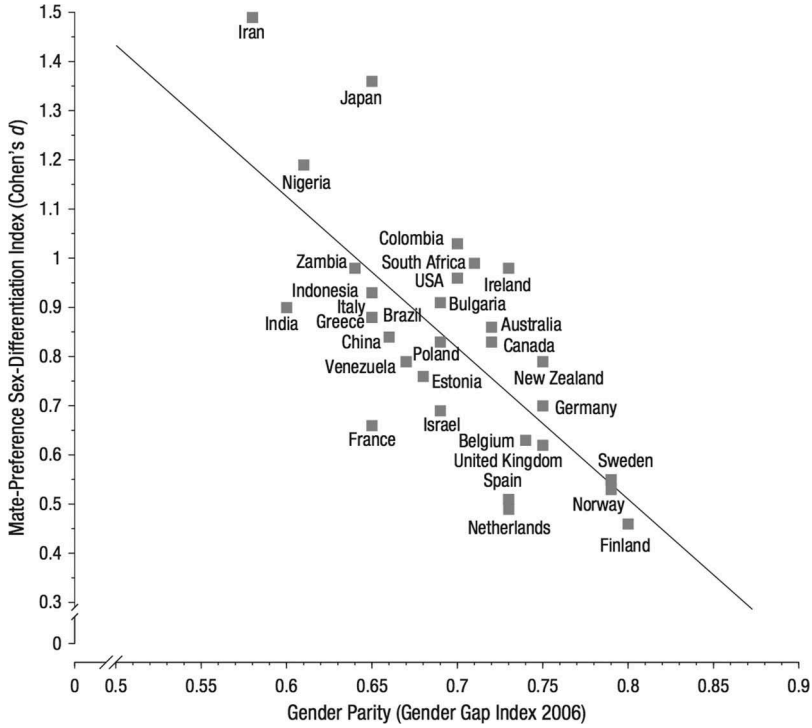

Figure 3. Nations' gender gap index (GGI) score by gender gap in mate preferences (in Cohen's effect size *d* units). $N = 31$. Analyses are based on the data for nations as reported in Tables 1 to 4 by Buss (1989); see Zentner and Mitura (2012). Reproduced with permission from Zentner and Mitura (2012). © 2012 Sage Publications. Permission to reuse must be obtained from the rightsholder.

gender parity cannot be attributed to a subaspect of gender parity (Zentner & Mitura, 2012).

A particularly noteworthy finding of Study 1, which used more recent data, is the reversal of the traditional sex-related difference in certain mate preferences among nations with a high gender equality score. In Finland, which is regularly ranked among the top five nations for gender parity worldwide, men considered intelligence/education to be a *more* important mate choice criterion than did women. In both Finland and Germany, men considered good housekeeping skills a *less* desirable mate attribute than women did. Of distinctive importance to evolutionary psychology is chastity (i.e., lack of sexual experience previous to marriage) because it is the attribute most closely related to reproduction. According to evolutionary logic, men should place a particular value on it because they need to be sure that their children are their own. Yet, contrary to this reasoning about mate-guarding, even this variable showed a reversal: In the United States, men regarded chastity as a slightly

less important mate choice criterion than did women. The generally small gender differences in preference for chastity in the more gender-equal nations found by Zentner and Mitura (2012) are consistent with a meta-analysis showing that in modern societies men and women find sexual infidelity about equally distressing (Carpenter, 2012).

In sum, empirical evidence supports the hypothesis of a strong association between national increases in gender equality and gender convergence for each of the mate preferences that have often been interpreted as following from evolved adaptations but that are equally relevant to social role theory. The single exception is good looks, which has a minor role in social role theory as is explained in a later section (see subsection "Ambiguities Concerning Men's Greater Emphasis on a Mate's Physical Attractiveness"). The evidence is also consistent with sociological findings that often show greater educational and earnings homogamy, defined as the selection of similar marital partners, in more gender-equal nations (e.g., Kalmijn, 2013; Schwartz, 2013).

As always, it is important to consider possible alternative explanations. It is logically possible to question the causal direction of association between gender parity and sex differences in mate preferences, but it is difficult to see how sex-related differences in a few mate preferences could cause large-scale societal gender inequalities. A more serious challenge in interpreting the reported trends lies in the complexity of gender equality, which involves a confluence of geographic, economic, demographic, and religious components, any of which could underlie the observed relationship.

This point took a central place in Gangestad and colleagues' (2006) critique of the initial evidence for a link between gender inequality and the size of sex differences in mate preferences demonstrated by Eagly and Wood (1999). In the Gangestad et al. analysis, the association between gender equality and the magnitude of sex differences in mate preferences lessened considerably when latitude from the equator and nations' affluence were controlled for. The study had several limitations, however. One was its small sample, leading the authors to caution that "we cannot rule out the possibility that we did not detect some associations of the GEM and GDI with mate preferences (controlling for confounds) in a small sample" (Gangestad et al., 2006, pp. 86–87). This limitation was compounded by the previously mentioned shortcomings of the GEM and GDI measures used in this study. Even though the findings cannot be relied on given the study's weaknesses, the authors were correct in highlighting the importance of adjusting for potentially confounding variables in analyses involving measures of gender equality.

For this reason, Zentner and Mitura (2012) reexamined the associations between gender differentiation in mate preferences and gender inequality, which they had found in Study 1 and Study 2, by adjusting for countries' gross domestic product, religion, and geographic region in the nation-level analyses, and for education, social class, and age in the individual-level analyses.

Controlling for these factors did not alter the strong association between gender inequality and gender differentiation in mate preferences. The results were weaker when inadequate measures of gender parity, such as the GEM or GDI, were used for the purpose of comparison with earlier work. These results suggest that the effect of individual components of gender equality on gender differentiation in mate preferences, such as gross domestic product and religion, work through their association with overall gender equality.

Adherents of evolutionary psychology were among the first to report large cultural diversity in mate preferences, noting, for example, that "the effects of sex on mate preferences were small compared with those of culture" and that "more traditional societies showed more sexual dimorphism than modern societies" (Buss et al., 1990, p. 44). Somewhat in disregard of their own empirical results, these evolutionary psychologists have later emphasised the universality of sex differentiation in human mate preferences and dismissed gender parity as a possible explanation for the lessening of "sexual dimorphism" from traditional to modern societies (e.g., Buss, 2011, p. 130; Gangestad et al., 2006). In a later analysis of the same 37-culture study, the authors acknowledged some effect of gender equality, but noted that "the cross-cultural variability explained by GEM [gender empowerment measure] is dwarfed by the magnitude of the sex difference itself" (Conroy-Beam, Buss, Pham, & Shackelford, 2015, p. 1091. This conclusion was based on the GEM, however, which is no longer considered a valid measure of gender equality, as noted earlier. The authors' resolute rejection of gender equality as a moderating factor in sex differences in mate preferences appears to be partly based on the previously described findings by Gangestad and colleagues (2006; later refuted by Zentner & Mitura, 2012) and partly on the notion that sex differences are genetically programmed and cannot be fundamentally altered by changes in social roles.

To account for the large cultural variations in mate preferences, evolutionary psychologists proposed an *evoked culture* account (e.g., Buss, 2011), as opposed to a *transmitted* or *cumulative culture* account, such as the one we propose. The evoked culture theory proposes that cross-cultural differences in mate preferences come about because genetically programmed, universal sex differences in mating strategies can be differentially evoked by contextual factors, such as sex ratios and reproductive stress (e.g., Gangestad et al., 2006; Schmitt, 2005). Thus, although women would be universally and biologically programmed to seek men with potential for resource acquisition, this tendency would be evoked more, for example, to the extent that men control wealth and resources (Sefcek, Brumbach, Vásquez, & Miller, 2006). In addition, contemporaneous conditions such as pervasive threats to health are presumed to facultatively, or contingently, evoke relevant evolved tendencies, such as a female preference for masculine-appearing mates (DeBruine, Jones, Crawford, Welling, & Little, 2010). In this view, gender-specific mate preferences are merely passively

evoked without the active processes of weighing costs and benefits proposed by social role theory.

One difficulty with the evoked culture principle is that it stipulates a variety of environmental factors with shifting relevance. The result is a complex array of hypotheses, which greatly reduces the theory's parsimony and amenability to empirical testing. Moreover, it is difficult to discern which current environmental conditions have parallels in humans' distant ancestral past and thus favour the activation of particular evolved dispositions. Further, many contexts of modern societies that are critical to mate selection, such as online dating sites and speed-dating events, are entirely novel.

In our sociocultural explanation, gender equality and its cross-cultural variation are sufficient to account in large measure for both cross-cultural consistency and gradations in sex differences for mating preferences, thus making for a theory of considerable power and simplicity. This feature does not mean that the concept of gender equality itself is simple or unidimensional. Rather, gender equality is a product of a biosocial interaction between the evolved attributes of women and men (e.g., female reproductive activity, male size and strength) and societies' socioeconomic, political, and ecological conditions (Wood & Eagly, 2012). This intertwining of gender equality with environmental conditions complicates causal inference and thus suggests that the cross-cultural research strategy should be complemented by other approaches.

Another problem with evoked culture explanations is that they are usually based on the assumption of a single ancestral era when evolution transpired (Symons, 1979; Tooby & Cosmides, 1992). This assumption has been increasingly questioned by evolutionary scientists. Instead, the evolution of human mating psychology reflects several stages of evolution in the lineage that produced *Homo sapiens* (Eastwick, 2009; Hublin, Neubauer, & Gunz, 2015). The late stages yielded psychological mechanisms by which humans became responsive to social norms and able to exercise self-control in mating and other aspects of life. New human capacities of advanced cognitive and social abilities enabled the quick adaptability of humans to their changing environments and enhanced their capacity to respond to unexpected change and resource uncertainty through reliance on social learning and innovation (Boyd, Richerson, & Henrich, 2011). In our view, it is these human capacities that underlie the shaping of human mate preferences by sociocultural conditions.

In conclusion, the cross-cultural evidence reviewed here points to a strong and systematic association between nations' progress toward gender equality and the waning of sex differences in partner preferences—even including the appearance of some reversals of the traditional sex-related difference among nations with a high gender equality score. Because equality in the social roles of women and men is what gender-parity indexes measure, the observed trend is supportive of our sociocultural explanation of mate preferences. We now turn to other research

strategies that offer insight into the nexus between convergence in gender roles and gender similarity in mate preferences.

Historical research

A neglected phenomenon in discussions of the origins of the mate preferences of women and men is the speed with which changes in these preferences can occur. As will become apparent later, such changes occur within decades and do not appear to require the millennia that many evolutionary psychologists think are necessary for change in humans' evolved psychological mechanisms. As Cosmides, Tooby, and Barkow (1992, p. 5) wrote: "The available evidence strongly supports ... a single, universal panhuman design, stemming from our long-enduring existence as hunter-gatherers." In line with this reasoning, Buss noted: "Whereas modern conditions of mating differ from ancestral conditions, the same sexual strategies operate with unbridled force. Our evolved psychology of mating remains" (Buss, 2003, p. 14). Fundamental changes in mate preferences do not require even the multiple generations assumed by more recent adaptationist accounts that suggest faster rates of genetic change (Cochran & Harpending, 2009; Hawks, Wang, Cochran, Harpending, & Moyzis, 2007). Instead, in their basic mating preferences, humans respond with a speed that matches the speed of changes in the division of labour, which have been rapid in the past century.

In the historical analysis that follows, we integrate social psychological research on changes in mate preferences with relevant research by sociologists and economists. We thus precede the discussion of psychological research on mate preferences with sociologists' and economists' descriptions of the major recent changes in the social position of women and men. A summary of sociological research on change in actual marital choices then follows the description of changes in mate preferences.

As noted, major changes have taken place in recent decades as women's roles have become more similar to men's roles in most industrialised nations (Hausmann et al., 2014). Birth rates have declined substantially in most nations since the 1950s (United Nations, Department of Economic and Social Affairs, Population Division, 2013), reducing women's childcare responsibilities and allowing them to increase their participation in paid labour (Charles, 2011). Other factors reducing women's domestic work in many nations include the widespread use of labour-saving household appliances and products and the increasing outsourcing of childcare and, to a lesser extent, housework (Raz-Yurovich, 2014; Stancanelli & Stratton, 2014). Some women even outsource gestation through the use of surrogates (Twine, 2015).

Women's rising labour force participation has been accompanied by greater approval of their employment, albeit with some attitudinal retreat in the mid-1990s, at least in the United States (Cotter, Hermsen, & Vanneman, 2011;

Donnelly et al., 2015). Attitudes and labour force participation appear to be interdependent and can be modelled as an intergenerational cultural learning process whereby women observed the long-run payoffs of other women's employment, changed their attitudes, and acted on these changes, and these changes diffused in a culture (Fernández, 2013). As related evidence suggests, women learned about combining paid employment and childcare in part from observing their neighbours' experiences, and, as this knowledge accumulated, the rate of change in women's employment accelerated (Fogli & Veldkamp, 2011). As a result of these social and psychological processes, wives and husbands increasingly share both wage-earning and domestic responsibilities in many nations, although parity in their contributions has not yet been attained (Geist & Cohen, 2011; Hausmann et al., 2014). A summary of these changes, represented by data on changes in time use for market work (i.e., paid labour) and nonmarket work (i.e., family care work), in the United States appears in Figure 4 (from Bianchi, 2011, Table 1 and 2).

With more women entering high-status occupations than in earlier years (Lippa et al., 2014), the gender wage gap has decreased substantially in many nations (Beller & Kahn, 2012; Weichselbaumer & Winter-Ebmer, 2005). In the United States, the wife earns more than the husband in 38% of married couples in which the wife has earnings (U.S. Bureau of Labor Statistics, 2014). Women

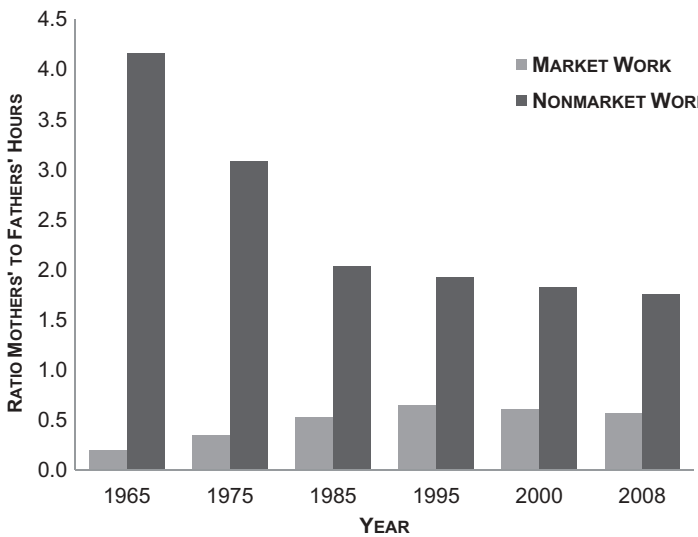

Figure 4. Ratio of mothers' to fathers' hours of market and nonmarket work in various years. Market work consists of work and commuting, and nonmarket work consists of housework, childcare, and shopping services. Data from U.S. time-use surveys for ages 18–64 years as reported by Bianchi (2011).

also increased their enrolments in tertiary education (i.e., post high school). The number of male tertiary students globally more than quadrupled, from 17.7 million to 77.8 million between 1970 and 2008, but the number of female tertiary students rose more than sevenfold, from 10.8 million to 80.9 million. Overall, women earn the majority of university degrees in many nations and increasingly earn degrees in traditionally male-dominated disciplines such as business, law, medicine, math, and science (World Bank, 2012, pp. 60–62). It would be surprising if such profound socioeconomic changes in childbearing, labour force participation, and education had no impact on female and male mate preferences. From a sociocultural point of view, we would expect convergence across the sexes in the relevant mate preferences to be concordant with the pace of the described sociostructural changes.

The available data on mating preference across time are useful but limited because they rely on U.S. replications of a particular survey of preferences initially administered by Hill (1945) in 1939 to a college student sample. The Hill instrument asked students to provide importance ratings for each of 18 listed traits. The replications appeared in 1956, 1967, 1977, 1985, 1996, 1997, 2001, and 2008. Because the response format changed across the various replications, researchers rank-ordered the mean ratings within each study to produce a standard metric allowing a comparison across the data sets. The resulting findings were reviewed in part by Buss, Shackelford, Kirkpatrick, and Larsen (2001) and by Boxer, Noonan, and Whelan (2015).

In the 69 years spanned by these studies, several changes are apparent in students' reported mate preferences in our analysis of these data. Specifically, the largest changes (i.e., a shift in 4 or more points in rank-ordering) are the following: (a) for men's preferences, the increased valuing of a mate's *good financial prospects, education and intelligence, sociability*, and *good looks* and decreased valuing of *chastity* and *good cook and housekeeper*; and (b) for women's preferences, the increased valuing of a mate's *sociability, good looks, education and intelligence*, and *mutual attraction-love* and decreased valuing of *chastity, refinement and neatness*, and *ambition and industriousness* (see also Boxer et al., 2015; Buss et al., 2001). Figure 5 illustrates the convergence in women's and men's importance ranks for *ambition and industriousness* (upper lines) and for *good cook and housekeeper* (lower lines) between 1939 and 2008.

Most of these changes are consistent with the observed change in the division of labour, especially men's lesser emphasis on homemaker qualities in a mate and greater emphasis on provider qualities, as well as on education and intelligence. Consistent as well is women's lesser emphasis on ambition and industriousness in a mate. Both sexes' greater emphasis on sociability suggests a valuing of companionship in marriage. Also notable is the finding that women in recent samples placed greater emphasis on a mate's desire for home and children than men did, perhaps regarding this quality as a sign of interest in sharing domestic responsibilities.

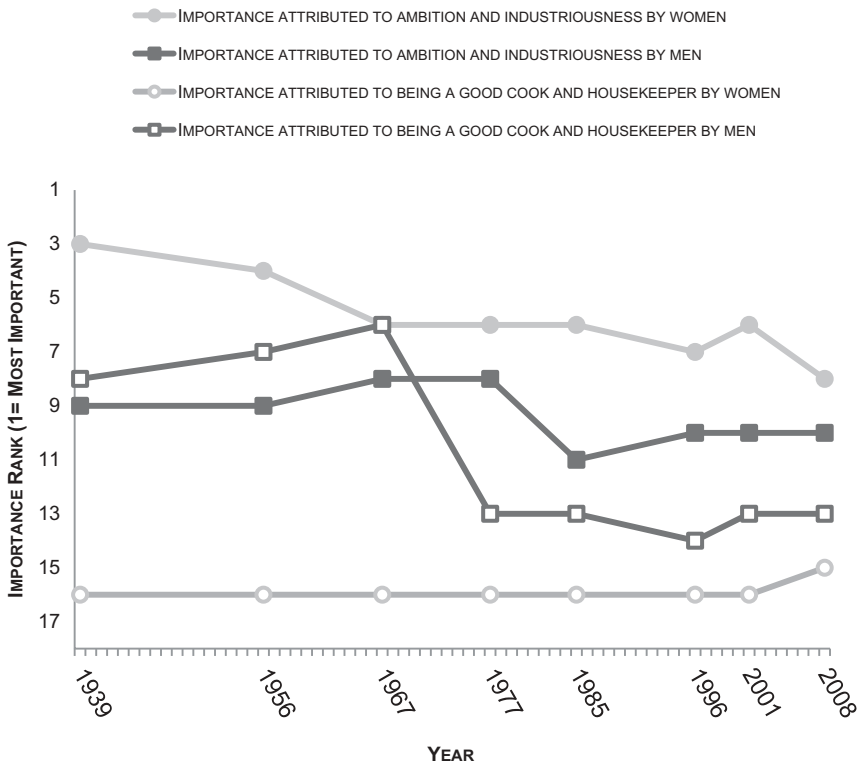

Figure 5. Convergence in women's and men's importance ranks assigned to *ambition and industriousness* as desired partner attribute (filled symbols) and to being a *good cook and housekeeper* (empty symbols) as desired partner characteristics between 1939 and 2008. Ranks range from 1 (*most important*) to 18 (*least important*). Data reported by Buss et al. (2001) and Boxer et al. (2015). The 2001 data were collected by Johannesen-Schmidt and Eagly (2002).

These shifts in mate preferences are generally consistent with sociologists' demonstrations of changes in actual mate choices. Research on marriage patterns has demonstrated pervasive increases in homogamy—that is, marriage between individuals who are similar to one another on various indicators. Homogamy has increased on income (McCall, 2008; Schwartz, 2010), labour supply (i.e., employment and hours worked; Esping-Andersen, 2007; Jacobs & Gerson, 2004), and education (Schwartz & Mare, 2012). These changes have been fuelled mainly by the increasing marriageability of women who offer valuable educational and wealth attributes.

Specifically, the traditional tendency for men with higher earnings to be more likely to marry extended to women in the United States, whereby earnings also came to predict women's likelihood of marrying (Sweeney, 2002; Sweeney &

Cancian, 2004). Similarly, the traditional tendency for men with greater education to be more marriageable also recently extended to women, whereby greater education also came to predict women's likelihood of marrying (Blossfeld, 2009; Torr, 2011). In particular, with respect to education, the traditional educational hypergamy—that is, women "marrying up" in educational attainment—has been replaced in many nations by the homogamy of women marrying an educational equal and the hypogamy of women "marrying down" (Esteve, García-Román, & Permanyer, 2012; Schwartz, 2013; see also Grow & Van Bavel, 2015, for implications of changes in gender-specific distributions of educational attainment).

In addition, as the age of marriage has risen over time, the age gap in marriage has lessened (Stevenson & Wolfers, 2007). Illustrating this trend toward similar age of marital partners, the age difference in first marriages in the United States has declined from husbands being 3.4 years older than wives in 1920 to husbands being 2.2 years older than wives in 2011 (U.S. Census Bureau, 2013). Similar declines in the age gap at first marriage have appeared in many nations that have undergone modern transitions in women's roles (e.g., Canada: Employment and Social Development Canada, 2015; France: National Institute of Statistics and Economic Studies, 2015; Australia: Australian Bureau of Statistics, 2014).

In general, the across-time analyses are consistent with the cross-cultural patterns examined earlier. Thus, the gender convergence in preferences for mates' age, financial prospects, and homemaker qualities that appears cross-culturally with increasing levels of gender parity is mirrored by a similar gender convergence that appears across time, as well as in actual marriage data. Although the causal links in these relationships need further probing, it is plausible that these changes, like the differing preferences across nations, have emerged from the greater similarity in the social roles of women and men that characterise developed nations and many developing nations in more recent times (e.g., Coontz, 2004).

Individual differences research

A third domain of variability in mate preferences can be found at the level of individual differences in partner preferences. Standard wisdom holds that certain partner characteristics are generally desirable, leading most people to seek out and prefer similar partners (e.g., Buss & Schmitt, 1993). This view has been challenged by Zentner (2005) who used a person-centred approach to determining the degree of interindividual variability in desired mate attributes. In two studies comprising couples and individuals, participants defined their concept of an ideal mate using Q-sorts of 90 personality characteristics. The advantage of this metric is that it takes into account the overall trait *pattern* of individuals' ideal partner concepts. Each individual's ideal mate Q-sort profile was then

correlated with all other participants' ideal mate Q-sort profiles in the sample, yielding a distribution of similarity coefficients.

The average of these coefficients yielded a modest base-rate or random similarity of $r = .40$, suggesting substantial interindividual variability in women's and men's ideal mate concepts (see Zentner, 2005, for a more detailed interpretation). Also, showing that this variability has predictive validity, individuals whose own ideal partner personality concepts were congruent with the perceived personality trait pattern of their partner had better relationship outcomes in terms of relationship satisfaction and duration (Zentner, 2005, Study 2)—a finding that was later corroborated in a sample of married couples (Eastwick & Neff, 2012). The extent of variability in ideal mate personality attributes may surprise at first. However, if individuals had similar partner preferences, only a minority of lucky individuals with the consensually desired personality characteristics would be able to attract mates and reproduce. This consequence would be to the detriment of a dismal majority left with low probabilities of mating and less desirable choices because of their less valued personality characteristics. Variability in preferred partner characteristics, in contrast, provides a relational niche for a majority of individuals, thus facilitating reproduction and satisfaction in relationships (Zentner, 2005).

By social role logic, interindividual variation in partner preferences should be associated with individual variation in attitudinal endorsement of traditional gender relations involving male breadwinning and female homemaking. Such individual-level attitudes and beliefs reflect the internalisation of societal gender roles as personal gender identities (Wood & Eagly, 2015), but are highly variable because changes in female and male roles spread unevenly through societies. Just as changes toward greater gender equality across historical time and between nations influence mate preferences, individuals' personal beliefs related to the division of labour should predict individual-level mate preferences.

Research demonstrated this principle in a nine-nation sample consisting of Germany, Italy, Mexico, Singapore, Spain, Syria, Taiwan, Turkey, and the United States. The assessment of individual differences used Glick and Fiske's (1996, 1999) indices of traditional, or "sexist", versus nontraditional, or "nonsexist", beliefs (Eastwick et al., 2006). Given the *ambivalent sexism* scheme of Glick and Fiske, four indicators represent endorsement of traditional versus nontraditional attitudes: (a) *hostile sexism toward women* (e.g., "Women exaggerate problems they have at work"); (b) *benevolent sexism toward women* ("Women, compared with men, tend to have a superior moral sensibility"); (c) *hostile sexism toward men* (e.g., "Most men sexually harass women, even if only in subtle ways, once they are in a position of power over them"); and (d) *benevolent sexism toward men* (e.g., "Men are more willing to put themselves in danger to protect others"). The study related these attitudes to the mate preferences of men for younger mates with homemaker skills and of women for older mates with breadwinning potential—that is, the mate preferences that would favour a traditional

homemaker–provider division of labour. In results that were generally stable across the nine nations, more traditional gender attitudes were associated with conventional sex typing of mate preferences—that is, men's greater preferences for mates with homemaking skills and younger age and women's for mates with provider skills and older age (see also Johannesen-Schmidt & Eagly, 2002; Koyama, McGain, & Hill, 2004).

More specifically, traditional attitudes were a stronger positive predictor of women's than of men's preferences for provider qualities on three of the four sexism measures. In complementary fashion, traditional attitudes were a stronger positive predictor of men's than of women's preferences for homemaker qualities. In additional ipsative analyses, results were also consistent with the social role logic: To the extent that participants had traditional attitudes, women preferred good financial prospects in a mate more than other characteristics, and men preferred a good cook and housekeeper more than other characteristics. Finally, for preferred age difference in a mate, all four forms of traditional gender attitudes were associated with sex-typed preferences: More traditional attitudes in women predicted preferring an older mate, whereas such attitudes in men predicted preferring a younger mate. These findings, although correlational, are consistent with the hypothesis that traditional attitudes toward the roles of men and women guide mate preferences by fostering preferences that reflect the classic homemaker–provider division of labour.

Another means to examine social-role predictions about mate preferences within an individual difference context is the experimental manipulation of participants' expectations about female and male roles to determine whether their partner preferences show corresponding changes. This experimental method overcomes the ambiguities of causal direction that are inherent in correlational designs. By randomly assigning female and male participants to think of themselves as a homemaker or a provider (or omitting this priming), different divisions of labour can be temporarily instilled at the individual level, and their effects on mate preferences can be examined.

Two experiments exemplifying this approach were conducted by Eagly, Eastwick, and Johannesen-Schmidt (2009). Specifically, female and male participants who were instructed to think about themselves as a future homemaker regarded mates' provider qualities as more important and homemaker qualities as less important than did participants who were instructed to think about themselves as a future provider. Envisioning oneself as a homemaker (vs. provider) also shifted female and male preferences toward an older spouse. Moreover, when participants freely envisioned their own future marriage without being primed to think of themselves as a homemaker or provider, the less wage-earning responsibility they anticipated for the wife (a proxy for traditional roles), the more traditional were their mate preferences.

This pattern is illustrated in Figure 6 by findings from Eagly et al.'s (2009) Experiment 2. Female and male participants were instructed to envision

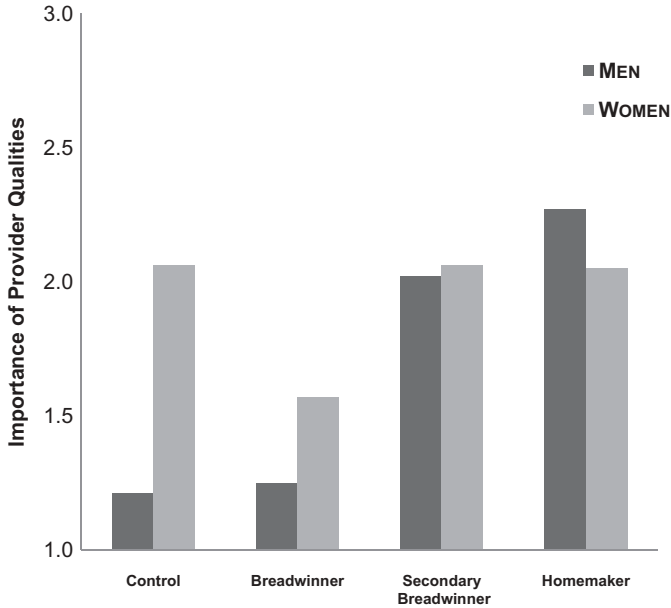

Figure 6. Importance attributed to a partner's provider qualities (*y*-axis), as a function of anticipated future roles (experimental conditions, *x*-axis): envisioning oneself in a future role as a breadwinner, secondary breadwinner, homemaker, or control conditions (no future role instructions). The answer format consisted of a 4-point scale ranging from 0 (*irrelevant or unimportant*) to 3 (*indispensable*). From Eagly et al. (2009).

themselves as married with young children and as (a) their family's sole breadwinner, employed full time outside the home; (b) their family's secondary breadwinner, employed part time outside the home; or (c) a stay-at-home parent (i.e., homemaker). Control participants received only the information about being married with young children. Notable is the strong tendency for homemakers and secondary breadwinners to accord importance to a mate's provider qualities, regardless of participant sex.

By instructing participants to envision themselves in a particular future marital role, this research modelled the thoughtful processes that people likely invoke in deciding what type of long-term mate would be desirable. In everyday life, such envisioning of possible future selves can energise and direct people's behaviour toward goals and thus underlie their achievement of long-term objectives (Markus & Nurius, 1986). Reviewing these "possible selves" experiments in some detail here reveals their direct support for the idea that the division of labour is a key determinant of the traits that men and women seek in potential mates to facilitate attaining their life goals.

Other experimental manipulations have provided additional evidence for a causal relationship between specific environmental factors and specific mate preferences. For example, in one experiment, wealth and dominance were more valued by participants when they were asked to envision themselves living in a long and difficult economic crisis as opposed to a period of prosperity and well-being (Marzoli et al., 2013). The induced experience of scarcity made a wealthy partner look more desirable to men just as much as it did to women. Taken together, these experiments provide support for a causal relation between social–environmental conditions and mate preferences, thereby corroborating the idea that mate preferences have an evolved flexibility in response to environmental factors.

A final research approach that could shed light on the causes and development of individual differences in mate preferences is behavioural genetics, ideally in combination with prospective longitudinal data. One study examined the genetics of mate choice, but found no evidence for a genetic contribution to mate selection. Specifically, the spouses of identical twins were not more similar to each other on personality and other variables than would be expected based on chance pairings. This result is consistent with the way in which these monozygotic twins judged the desirability of their co-twin's mate selections: "39% liked them, but 38% disliked them; only 5% said they could have fallen for (him/her) myself; whereas 9% insisted that they would have rather stayed single than marry their co-twin's choice" (Lykken & Tellegen, 1993, p. 65).

A later twin study examined genetic influences on individual differences in mate preferences directly. It also failed to find any evidence for genetic effects on mate preferences, which is particularly surprising considering that genetic effects have been found for nearly all psychological traits. Instead, the authors reported significant influences of the family environment on women's mate preferences for age and income (Zietsch, Verweij, Heath, & Martin, 2011). The importance of family environment is consistent with the principle that individual and gender variability in mate preferences arise from the steady influence of societal gender roles, parental attitudes, and observations of the consequences of parents' and others' life choices for employment and marriage. This research is also consistent with evidence that parental attitudes and child-rearing practices are a major factor contributing to concordance in values and ideals between parents and their children (Zentner & Renaud, 2007). The importance of families and communities in the transmission of beliefs about the roles of women and men is also the focus of studies conducted by economists (e.g., Fernández, Fogli, & Olivetti, 2004; Fogli & Veldkamp, 2011).

CONTRARY EVIDENCE

The evidence reviewed thus far is both theoretically and empirically consistent with predictions derived from our sociocultural approach to understanding

partner preferences. We now turn to findings that would appear to be more difficult to reconcile from this perspective. These findings can be classified into two broad areas: (a) positive relationships between women's income and preferences for good financial prospects in a partner and (b) the importance for men of partners' "good looks" in gender-equal societies. In what follows, we review findings relating to each of these two points.

Positive relationships between women's income and preferences for partners' good financial prospects

The evidence reviewed earlier indicates that sex differences in preferences for a partner with good financial prospects strongly diminished as nations' gender parity increased. However, this relationship does not always hold within nations, with some studies reporting a positive relationship between women's income and preferences for resource-acquisition characteristics in a partner (e.g., Gil-Burmann, Peláez, & Sánchez, 2002; Kalmijn, 1991, 1994; Wiederman & Allgeier, 1992; see also Buss, 2011). Such findings are ordinarily interpreted as contrary to social role theory because women's greater wealth should weaken their dependence on men for resources and thus lessen their emphasis on a mate's financial prospects. In this subsection, we explore the strength, generality, and patterning of these findings and argue that they are largely compatible with sociocultural interpretations.

A first point is that contemporary studies of the link between women's wealth and their aspirations for a partner with good earnings prospects have produced variable findings. For example, in a U.S. online dating study analysing natural variation in dating profiles, both sexes showed a preference for higher income profiles. Although this tendency was somewhat more pronounced among women, there was little evidence of a relative income effect except for a small tendency of women to disfavour men whose income was inferior to theirs by ≥$25,000 (Hitsch, Hortaçsu, & Ariely, 2010b). In contrast, a Chinese online dating experiment that randomly assigned income levels to profiles of potential dating partners found dramatic evidence of women (but not men) disproportionately visiting higher income profiles and, demonstrating the effect of women's own wealth, found especially great interest of women in men with incomes greater than their own (D. Ong & Wang, 2015; D. Ong, Yang, & Zhang, 2015). Perhaps this disparity between Chinese and U.S. data reflects China's unusual sex ratio, consisting of an excess of young men. Although evolutionary psychologists interpret sex ratio effects as influencing male behaviour through increased male–male competition (e.g., Griskevicius et al., 2012), this study's demonstration of effects on female behaviour suggests that Chinese women may perceive good possibilities of gaining wealth through marriage to a rich man, given the shortage of women.

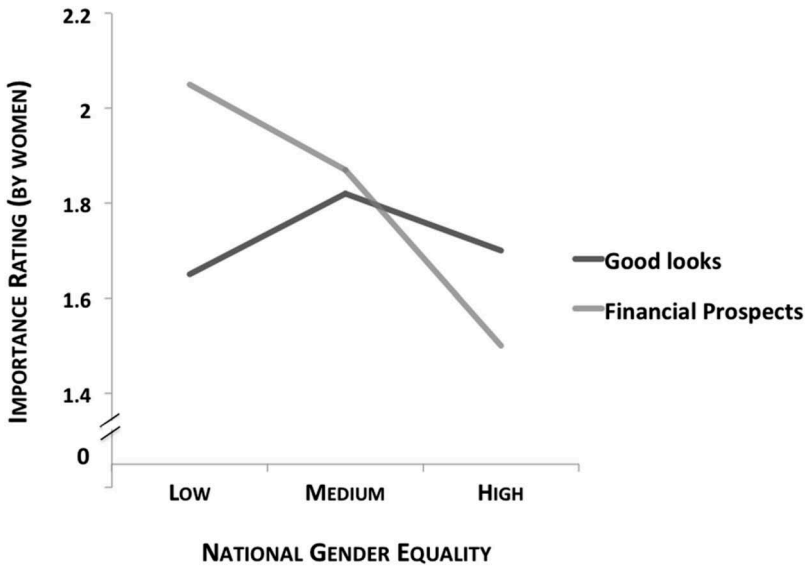

Figure 7. The importance that women attribute to good looks relative to the importance that they attribute to financial prospects, by increasing national gender parity levels. Illustration based on data from Zentner and Mitura (2012, Table 2).

A second point is that the importance that financially independent women attribute to earning potential diminishes markedly when this criterion is analysed relative to other mate qualities. For instance, one study examined whether women continue to prefer "good financial prospects" over "physical attractiveness" (i.e., the traditional partner preference configuration) even after having reached high levels of autonomy and financial independence (Moore, Cassidy, & Perrett, 2010). These researchers found that the importance that women attributed to good financial prospects diminished relative to the importance they attributed to physical attractiveness and reached parity at high levels of financial independence. This finding mirrors a trend that emerged in the cross-cultural research by Zentner and Mitura (2012), which we reviewed earlier. Whereas the value women attributed to good looks was fairly constant across nations, irrespective of gender parity level, the importance attributed to financial prospects diminished strongly with rising gender parity levels (see Figure 7).

A third point is that any association between a woman's own income and her preference for a partner with good financial prospects may reflect traditional gender roles that remain characteristic of marital relationships despite considerable progress toward gender equality. Even in comparatively gender-egalitarian nations, these roles are still often defined by greater male power and status, which encompasses the norm of husbands as the primary

breadwinner (Tinsley, Howell, & Amanatullah, 2015). Therefore, women may sense that their own higher income could threaten the masculinity of a male partner. Consistent with this proposition, wives' greater economic independence was associated with greater risk of marital dissolution (Sayer & Bianchi, 2000). Moreover, other research identified a dramatic drop in the numbers of married couples as the wife's income approached that of the husband's, as if couples avoid stepping over the line where the income of the wife becomes larger than that of the husband (Bertrand, Pan, & Kamenica, 2015).

These findings, although consistent with the idea of a masculinity threat potentially arising from violations of a male breadwinner norm (Vandello & Bosson, 2013), are not entirely unambiguous causally. More direct evidence stems from a Danish study showing that husbands whose wives outearned them were more likely than other husbands to use erectile dysfunction medication. In addition, both women and men in the couples with higher earning wives showed increased use of insomnia/anxiety medication (Pierce, Dahl, & Nielsen, 2013). Although higher female incomes may cause discomfort to men in close relationships, these effects vary by both culture and individuals. For example, in a study that examined U.S. husband/wife inequality in education, the greater risk of divorce in couples with higher educated wives decreased over time, presumably as a result of greater acceptance of egalitarian gender relations in the United States (Schwartz & Han, 2014). In another U.S. study, researcher took account of the individual difference variable of *gender determinism*, defined as the belief that gender categories dictate individual characteristics (sample item: "Gender basically determines an individual's attributes"). This variable moderated traditional preferences so that more determinist men and women preferred husbands to serve as breadwinners, and such women chose careers that matched this preference (Tinsley et al., 2015).

A final point is that educated and ambitious women will in general prefer to mate with educated and ambitious men than with less educated and less ambitious men. The tendency for individuals to choose partners with similar traits, aspirations, backgrounds, and lifestyles is well documented in the literature on assortative mating (Schwartz, 2013). The preference to mate with those who are similar is partly a result of propinquity—people's tendency to interact with those inhabiting the same place at the same time. Because peers, friends, and colleagues who meet at work or in other places such as religious or recreational settings are more similar to one another than would be expected by chance, people tend to select partners who are similar to themselves. Choosing similar partners has also been attributed to the rewarding and self-validating effects of similarity (e.g., Günaydin, Selcuk, & Hazan, 2013). Thus, if financially independent women continue to mate preferentially with financially successful men in an era of increasing gender parity, this phenomenon does not provide evidence that women prioritise financial security for reasons of reproductive fitness. The

preference may simply reflect the well-known tendency of women and men to choose partners like themselves.

All in all, the relationships obtained within societies between women's level of wealth and their preferences for wealth in a male partner reflect varied influences. When findings do show women seeking men who earn as much or more than they do, this preference may reflect not only these women's own gender traditionalism, but also cultural shaping by (a) the opportunities for gaining wealth that are inherent in an overabundance of men, (b) anticipated masculinity threats experienced by men who form relationships with women who earn more than they do, or (c) mechanisms that are generally known to drive positive assortative mating, such as similarity and propinquity.

Ambiguities concerning men's greater emphasis on a mate's physical attractiveness

Evaluating the evidence relating to physical attractiveness requires clarification of the theoretical significance assigned to this particular partner preference in evolutionary psychology and the sociocultural framework. Evolutionary psychologists assign great theoretical significance to attractiveness, especially female attractiveness, because it is seen as a cue signalling potential reproductive success. As a consequence, sex differences in attractiveness have been the object of extensive research and theorising by evolutionary psychologists. The focus of the sociocultural perspective lies in other mate preferences, notably those that can be meaningfully related to provider and homemaker qualities. Cues to provider capabilities include financial prospects, education, and industriousness. Not only is older male age correlated with earnings (Rupert & Zanella, 2015), but it also serves as an indicator of patriarchy—that is, greater male power and status. Cooking and housekeeping skills, in turn, serve as cues to homemaker abilities.

The theoretical salience or relevance of mate attributes in the sociocultural perspective is directly mirrored in its predictions. Thus, gender convergence in mate preferences is expected to occur in response to gender equality for partner attributes that relate to provider and homemaker capabilities because they are plausibly consequences of greater gender parity in the division of labour.

In contrast, physical attractiveness does not relate to the division of labour in the same straightforward way. Therefore, the absence of a relation between gender parity and the gender gap in valuing attractiveness is not inconsistent with a sociocultural explanation of mate preferences. When relationships between sociostructural factors and changes in importance attributed to attractiveness can be found, they may well result from changes in the importance of mate preferences that directly relate to the division of labour. For example, the position of attractiveness in women's mate choice criteria has been shown to change mostly relative to earning potential in gender-equal societies (e.g., Moore et al., 2010; Zentner & Mitura, 2012). Advocates of an evolutionary psychology

of mating explain sex differences in the importance attributed to attractiveness by positing that it is a cue signalling potential reproductive success. From this perspective, attractive features such as full lips, wide eyes, small chin, lustrous hair, good muscle tone, and small waist-to-hip ratio serve as cues to women's fertility and thus should rank universally high in men's mate choice criteria (e.g., Sugiyama, 2005). Although reviewing research support for evolutionary psychology reasoning is not the purpose of this chapter, it is worth noting that some empirical findings pose a challenge to the plausibility of the theory's derivations about attractiveness as a long-term mate preference (the importance of attractiveness in short-term mating is not being questioned here).

First, in the research about historical trends reviewed earlier, good looks ranked only 14th for men and 17th for women of 18 partner choice criteria in 1939; in 2008, the corresponding ranks were 8th and 12th (Boxer et al., 2015; Buss et al., 2001). In the Zentner and Mitura (2012) study reviewed earlier, men considered education and intelligence to be more important mate choice criteria than attractiveness, regardless of national gender parity level (Zentner & Mitura, 2012, see their Table 2). In addition, several studies found attributes such as kindness, mutual love, or dependability to be far more important mate choice criteria than attractiveness for men and women (e.g., Boxer et al., 2015; Buss et al., 1990). These findings raise questions about the consistency between the central emphasis attributed to sex differences in attractiveness by advocates of evolutionary psychology and the empirical evidence, which suggests a more peripheral role for attractiveness in the mating preferences of men and women. As a cautionary note, these studies used self-reported mate preferences. As is discussed in the Conclusion, evidence gathered from other sources, such as implicit measures or behavioural observations, does not always concur with verbal report data.

Second, and as an exemplification of the above methodological caveat, sex differences in the importance attributed to physical attractiveness appear to erode when behavioural indicators of importance are used. For example, Selterman, Chagnon, and Mackinnon (2015) showed that, with face-to-face interactions in a speed-dating situation, male *and* female participants were more romantically interested in potential partners if they were viewed as attractive and good potential earners. Further, a meta-analysis that included research on attraction and relationships found that physical attractiveness showed a similar relation to romantic evaluations for both sexes (e.g., romantic desire, chemistry, "yessing" an invitation to meet; $r \sim .40$; Eastwick, Luchies, Finkel, & Hunt, 2014; see also exchange between Meltzer, McNulty, Jackson, & Karney, 2014; and Eastwick, Neff, Finkel, Luchies, & Hunt, 2014). Thus, sex differences predicted by advocates of evolutionary psychology may not hold when the importance of physical attractiveness to actual relationships serves as a measure of importance.

Third, the evolutionary psychology argument that men have evolved preference for attractiveness because it is a proxy for fertility is challenged by

evidence that in both sexes physical attractiveness has only a weak positive relation to fertility after marriage is taken into account (Jokela, 2009; see also Kalick, Zebrowitz, Langlois, & Johnson, 1998). Even more telling is the suggestion that favouring attractive, feminine women may be a modern cultural phenomenon. Specifically, mirroring the historical increase in the importance attributed to attractiveness in the data presented earlier in this subsection, studies from diverse societies showed that men's attraction to women with feminised faces increased with industrialisation and urbanisation, suggesting that it is evolutionarily novel (Scott et al., 2014). Such preferences may reflect the massive direct and indirect exposure to large numbers of women in such societies and the cultural value placed on beauty under these circumstances. Important sites for transmitting standards for attractiveness are contemporary mass media, notably advertisements, movies, and television, which are more ubiquitous in rich, industrialised societies than in poorer societies. Because of these conditions in industrialised societies, the current-day emphasis placed on female beauty may develop somewhat independently from progress toward gender equality in domains such as health, education, and political and economic participation. Such progress toward equality coexists with sociocultural changes such as an increased emphasis on female attractiveness that place women at a disadvantage (e.g., Buote, Wilson, Strahan, Gazzola, & Papps, 2011).

In summary, attractiveness has a minor role in the sociocultural framework. We acknowledge that this is a limitation of the sociocultural framework that we propose. For the same reason, however, findings about attractiveness are not suited to judge its empirical merits. Thus, findings that sex differences in the importance attributed to attractiveness do not decline with increasing levels of gender equality are not contrary to a sociocultural approach. Whether the theoretical significance that evolutionary psychology assigns to attractiveness is supported by a commensurate amount of corroborative evidence is less clear. The theoretical expectation that attractiveness should rank universally high in men's mate preferences due to deep evolutionary roots is not entirely borne out by empirical research.

CONCLUSION

Taken as a whole, research on sex differences and similarities in mate preferences has raised many questions and fuelled debates about nature and nurture. Only a few years ago, evidence relevant to sociocultural theories of mate preferences was scattered or ambiguous enough for critics to claim that "studies continue to falsify the structural powerlessness hypothesis or social role theory [of mate preferences] as it is sometimes called" (Buss, 2011, p. 130). In this review, we highlighted three forms of variation in mate preferences—across nations, across historical time, and across individuals—that all theories of mate preferences

should seek to explain. We have delineated an explanatory framework of considerable power, because it is equally applicable to all three forms of variation and thus more successfully accounts for these data than any competing theories of mate preferences of which we are aware.

Indeed, after bringing together numerous studies that are relevant to each of these forms of variation in mate preferences, we have two main conclusions to offer: (a) A substantial amount of converging evidence supports a sociocultural explanation of mate preferences, and (b) the evidence is clearest where it can be linked to clearly specified mechanisms with a straightforward theoretical rationale. Thus, our sociocultural theory does not predict a domain-general relationship between progress toward gender equality and convergence in all mate preferences. It predicts convergence primarily in those criteria related to provider and homemaker capabilities because they are plausibly consequences of greater gender parity in the division of labour.

To clarify theoretical issues, research on mate preferences should continue to expand beyond its current methodological boundaries. In particular, almost all research on mate preferences has relied on explicit measures of preferences administered as rating scales on questionnaires. Explicit measures may be vulnerable to social desirability biases, however, particularly in socially sensitive areas such as racial attitudes (Krumpal, 2013). Implicit and behavioural measures of mate preferences should be less vulnerable in this respect because they assess more spontaneous, less conscious attitudes and beliefs formed by past associations (Gawronski & Bodenhausen, 2006). As a result, they may produce evidence that deviates from some of the findings that were obtained with self-report instruments. For example, one study found that the traditionally greater preference of men for physical attractiveness that emerged with an explicit measure was absent with an implicit measure of partner preference (Eastwick, Eagly, Finkel, & Johnson, 2011). A greater male preference for physical attractiveness also failed to materialise in the study by Selterman et al. (2015), which had used behavioural measures, as highlighted in the previous section.

However, the concern that research on mate preferences might have produced many results of uncertain validity for its reliance on explicit measures seems unfounded. On one hand, any social desirability bias of explicit measures in mate preference research would be mitigated by the anonymity of respondents' questionnaire ratings in the relevant studies (A. D. Ong & Weiss, 2000). On the other, and attesting to the continuing value of explicit measures, meta-analyses aggregating relations of explicit and implicit measures of attitudes to behavioural, judgment, and physiological outcome variables showed that explicit measures predicted either much better (Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013) or slightly better (Greenwald, Poehlman, Uhlmann, & Banaji, 2009) than implicit measures, which are presumed to be less vulnerable to social desirability biases. It is also worth recalling the substantial individual variability in ideal

partner preferences found by Zentner (2005; subsection on "Individual Differences Research"). This variability would be unlikely to occur and to predict relationship outcomes above and beyond culturally shared partner preferences, if explicit measures of ideal partner preferences were merely capturing socially desirable responding.

Another complication is that preferences do not necessarily predict actual mate choices (e.g., Eastwick & Finkel, 2008). Yet, preferences from online dating have shown that sorting patterns for various attributes that result in dating matches resemble the assortative mating patterns observed for marriages (e.g., Hitsch, Hortaçsu, & Ariely, 2010a). However, other research found that explicit preferences predicted mate choices for long-term relationships only when researchers took preferences for multiple attributes into account simultaneously: The overall match between participants' preferences for numerous attributes and perceptions of partners on these attributes predicted mate choice (Eastwick, Finkel, & Eagly, 2011). Because the relationships between mate preferences and mate choice have not proven to be simple or straightforward, researchers would be well advised to contemplate attitude–behaviour research that identified the conditions that produce relatively strong relationships between other preferences and relevant behaviours (see Eagly & Chaiken, 1998).

For example, the *compatibility principle* (e.g., Ajzen, 2012) indicates that any independent variable better predicts dependent variables defined at the same level of generality. Because long-term mate choices are seldom based on single criteria (for example, physical attractiveness), they would be better predicted by taking into account a set of ideal preferences (Eastwick et al., 2011). Yet, using preferences as predictors of long-term partnering is a daunting research task, given that attaining a dyadic relationship requires that potential partners simultaneously act on their preferences and that the preferences themselves pertain to multiple psychological and physical attributes of potential partners.

Our focused review does not delve into aspects of human psychology other than mate preferences and choices. This limited scope allows us to address a domain of male and female psychology that has clear implications for both social role theory and evolutionary psychology. Nevertheless, changes in the personality, values, and cognitive abilities of men and women over time and across nations can also shed light on theories explaining sex-related differences and similarities. Like research on mate preferences, this broader domain of research has proven to be controversial, with conflicting findings (see Wood & Eagly, 2012).

In summary, to transcend the theory-laden selectivity of most discussions of research on mate preferences, researchers should consider evidence that is relevant to all sources of variation in mate preferences. A comprehensive account of mate preferences must consider all forms of evidence. The emphasis of the current review has been on sociocultural factors because we believe that their importance is not adequately incorporated into most current research approaches.

Nevertheless, we believe that to arrive at more robust conclusions, future theories should explore approaches that more fully acknowledge the importance of both nature and nurture (e.g., Eastwick, 2009; see also Eagly & Wood, 2013). Therefore, the current review should not be taken to imply that we consider other factors irrelevant. Finally, to understand mate preferences and choices, investigators should work to further expand the methodological diversity and sophistication of their research.

Before concluding, we briefly consider two questions that are raised by the research we have been reviewing: First, if perfect gender equality becomes a reality at some future time, would it result in essentially equivalent mate preferences and choices of men and women? Second, could research on mating behaviour influence progress towards gender equality? One way to address the first question is to extrapolate from the trends reported in this review. For example, from the trends illustrated in Figures 2 and 3, equivalence of the partner preferences of women and men would seem likely at perfect gender parity levels. Predictions of unobserved data are risky, however. Further, perfect gender equality may be difficult to achieve according to our own theory. As may be remembered, our theory posits that division of labour in society is strongly influenced by fundamental physical differences between the sexes—namely, greater male size and strength and exclusively female reproduction.

The implications of male size and strength are highly variable across cultures and historical periods, as the prevalence and prestige of strength-intensive labour changes. Although female reproduction has varying implications as well, depending on birth rates and the popularity and length of female lactation, it is inherently physically demanding and energy intensive, and it is exclusively female. When birth is followed by the energy-intensive and time-consuming activity of breastfeeding, which is difficult to fully integrate with most paid work, it pushes mothers toward infant care and away from employment. Therefore, new mothers' decreased labour market participation in the form of opting out or reducing hours is extremely common, even among highly educated women living in relatively gender-egalitarian nations (Hersch, 2013; Pew Research Center, 2013).

The implications for mate choice are that women may seek to replace this anticipated loss of income following childbirth by choosing husbands who have excellent labour market prospects. Greater participation of fathers in infant care could mitigate, but not fully eliminate, these career-compromising pressures on women. Progressive social policy could in addition make women's temporary reduction of their paid labour less damaging to their careers. Nonetheless, we expect that female reproduction will continue to foster a mild form of breadwinner/homemaker division of labour.

Our second question relates to possible societal implications of the research on mate preferences. As noted by Gergen several decades ago, "the dissemination of psychological knowledge modifies the patterns of behavior upon which the knowledge is based" (Gergen, 1973, p. 309). Because mating behaviour

permeates people's social existence almost everywhere, it may be particularly sensitive to feedback from science. As a reflection of the close ties between scientific research and social impact, consider the large number of sales of popular science and self-help books on the psychology of love and relationships (e.g., Lamb-Shapiro, 2014). Such books draw from a number of psychological, biological, and sociological research literatures. In recent decades, however, the most heavily popularised version of psychology of mating has drawn from evolutionary psychology, conveying a view of women and men as intrinsically different from each other (e.g., Perrin et al., 2011; Ruti, 2015). Emphasised in this "Mars–Venus popular literature" is the notion that men are genetically engineered to prefer beautiful and young women, whereas women are predisposed to seek out men with financial resources, status, and power. Although the writers elaborate these views ostensibly to help nonspecialist readers to improve their relational lives, including their chances of mating, they unwittingly help to uphold an essentially gender-unequal ideology.

In contrast to these popular science renditions of mate choices ruled by ancient selection pressures, research on sociocultural determinants of sex differences leads to the opposite conclusion—that the mating preferences of women and men respond with unsuspected speed and flexibility to sociostructural changes, most notably to progress toward gender equality. This research has been slower to percolate to nonspecialist readerships, although it would seem particularly suited to encourage those who seek to promote an equal treatment of men and women. We hope that the current integration of research on sociocultural aspects of partner preferences can contribute to its greater visibility.

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