SCUOLA DI DOTTORATO
UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

Department of Sociology and Social Research

Ph.D. Program in Applied Sociology and Methodology of Social Research
XXXI Cycle

Between beauty and status:

An on-line factorial experiment on heterosexuals' mating preferences

Livia Ridolfi
Registration number: 779901

Supervisor: Prof. Maurizio Pisati

Coordinator: Prof. Carmen Leccardi

ACADEMIC YEAR 2017/2018

Contents

List of Tables

List of Figures

Chapter 1

The Empirical Framework

An introduction

1.1 The relevance of mating preferences

1.1.1 Social and evolutionary perspectives on mating preferences

What women and men desire in a potential partner is a question that has intrigued several disciplines. People are interested in love, sex and romance. Therefore, the study of mating preferences is an exciting and appealing topic both for scholars and the general public. This is a crucial aspect for new scholars entering the field, because of the widespread enthusiasm that they will encounter. However, this is also a drawback, due to the risks of oversimplification and an inclination to "just-so" story-telling. Simplistic and stereotypical views of the differences between men and women are appealing to the general public but are also controversial from a scientific point of view. Mating behaviour, mating strategies and their variability are complex, and accounting for differences between men and women is a delicate issue both in scientific and cultural terms.

From a sociological perspective, different drivers may explain what people aim for when looking for a partner. People may try to find a good partner with whom to share their values and cultural background (Dimaggio and Mohr 1985; Kalmijn 1998; Rosenfeld 2008), or one who will enhance their own social status (Becker 1974; Schwartz 2013). In this regard, social sciences have often disregarded the role of sex, sexual attraction and reproduction in

shaping both human mating behaviour and gender relations. Indeed, the social sciences have framed mating preferences as expressions of the main patterns of mating choices, in which individual actions are seen as directed by cultural expectations and roles, and/or to the maximisation of their socioeconomic utility (Becker 1974). In this context, mating preference differences between men and women have been associated with different gender roles primarily shaped by the socioeconomic and cultural structure that is, typically, to the advantage of men (Kalmijn 1998; Schwartz 2013). This is in line with an extensive interdisciplinary literature that shows that men tend, on average, to prefer more physical beauty and youth in a partner compared to women; while women are, on average, more attracted by socioeconomic resources in a partner than men (Buss and Schmitt 2019; Geary et al. 2004; Hitsch et al. 2010; Pawlowski 2000; Whyte and Torgler 2017). Thus, with the increase in gender egalitarianism, men's and women's mating preferences should converge (Bavel et al. 2018; Kalmijn 1998; Shafer 2013; Skopek, Schulz, et al. 2011). Despite some evidence to support this, this process is not very consistent or straightforward (Buss et al. 2001; Eagly and Wood 1999; Lippa 2007; Zentner and Mitura 2012).

Apparently quite separate from social sciences, evolutionary disciplines consider the pressures of natural and sexual selection on human bodies and behaviour, as well as thevariability associated with ecological factors and culture. In most other species and, also, in contemporary hunter-gatherer societies, males and females have different evolutionary roles related to reproduction. These roles entail competition within each sex to "conquer" a good partner, and between sexes to gather the opposite-sex resources for reproduction. The sex that invests more in offspring is generally more demanding in terms of partner selection, compared to the other sex that, in turn, is usually more competitive. Since women have, as in most species, higher costs in reproduction, they should be more demanding when selecting a partner and particularly concerned about men's resources (Boyd and Silk 2006; Trivers 1972).

However, research on mating preferences is often considered to be too simplistic, and more focused on "just-so" storytelling, rather than carefully scientific in evolutionary terms. These reservations are shared among several evolutionary scholars and are directed towards both theoretical assumptions and the empirical production of evolutionary psychology (Bolhuis et al. 2011; Brown and Richerson 2014, e.g). This discipline has been the most focused on the topic of mating preferences and their variability and, despite the critiques,

needs to be considered when entering this field (Buss and Schmitt 2019).

Moreover, beyond debates inherent to evolutionary disciplines, I believe, in line with a growing number of sociologists, that it is time to face the empirical evidence produced by other disciplines that consider the evolutionary history of the human body and behaviour (Hopcroft 2018; Lopreato and Crippen 1999; Turner et al. 2015; Walsh 2014). Even if the aim of my research is not to test evolutionary hypotheses, I attempt to investigate mating preferences, taking into account the empirical and theoretical literature of different perspectives. I do this to better inform sociology but also because scientific knowledge needs research that can cross the borders of individual disciplines, by looking for consistency and a broad scientific audience (Brown and Richerson 2014).

I enter a field that is not traditionally sociological in terms of both theory and evidence. Indeed, social sciences, in particular sociology, have mainly focused on the study of mating choices and trends, assuming preferences but rarely investigating them. Thus, beyond the inclusion of evidence and theories generally disregarded by sociology, this study raises empirical questions that are relevant from a sociological standpoint.

Investigating how reproductive roles of women and men differ between each other, across cultures and over time, leads to a better understanding of the underlying patterns of human mating behaviour and its variation. In the context of partner selection, a broader consideration of the role of women means not just acknowledging women's constraints and submission, but also their power. Recent changes in female empowerment may highlight women's role in couple formation and the process of trade-offs that is put in place in the process of finding a good partner, raising children and achieving personal fulfilment.

1.1.2 Recent patterns of assortative mating and gender relations

The process of couple formation is typically driven by the aim of two individuals to exchange and invest their resources together for a shared future. Therefore, partner selection contributes to shaping the distribution of socioeconomic resources within a population and between social groups. This process of couple formation also defines gender relations within couples. For these reasons, the examination of marriage trends has been a meaningful way to study the degree of openness of societies, together with social class and job mobility,

as well as cultural distances between social groups and genders. Moreover, the process of couple formation is typically the starting point of a family and reproduction. Thus, people's decisions about who to reproduce with can shape a population's genetics (for reviews see Blossfeld 2009; Kalmijn 1998; Schwartz 2013).

Despite the increasing importance placed on the concepts of mutual love and relationship satisfaction, mating behaviour is still not random and is characterised by strong sorting patterns. People tend to form long-term relationships with others who are similar to them regarding genetic (Domingue et al. 2014), physical (Carmalt et al. 2008), cultural (Rosenfeld 2008) and socioeconomic traits (Blossfeld and Timm 2003; Gonalons-Pons and Schwartz 2017; Mare 1991). Thus, mating patterns are typically defined as *assortative*. Specifically, *positive* assortative mating is defined as *endogamy* when partners come from the same social group, like the same religion or ethnicity; and as *homogamy* when partners have a similar social status.[1] Conversely, *negative* assortative mating is defined as *exogamy* when partners do not come from the same cultural background and *heterogamy* when partners have different social status. Moreover, *hypergamy* is when the woman has a lower social status than the man and *hypogamy* is when the woman has a higher social status than the man (Schwartz 2013).

Characteristics of the timing of couple formation and other trends associated with it have changed and developed alongside social transformations. Geographic mobility and migrations have led to a greater proximity between ethnic groups and generally more diverse societies. The role of third parties, such as religions and families, has considerably decreased over recent decades and, at least in Western countries, has been replaced by a free choice of mate for individuals. Relationships are now usually based on mutual love and sexual intimacy, people have sexual experiences outside of marriage and there is a greater acceptance of non-heterosexual relationships compared to the past. Accordingly, marriage and childbearing have been delayed in favour of an increase in non-marital cohabitation; couple dissolution is more common, and divorces have increased (Schwartz 2013).

---

[1] Regarding similarity in the level of education within couples, scholars have used both terms "educational endogamy" (Rosenfeld 2008) and "educational homogamy" given the double connotation of education as cultural background and source of socioeconomic status. In recent studies, educational homogamy is predominant over educational endogamy given the interest towards the socioeconomic consequences of women educational attainment as a vector of socioeconomic empowerment on marriage trends and characteristics.

The new role of women in societies plays a fundamental role in this changing context. Indeed, families have progressed from being based on a breadwinner-housewife dynamic, to consisting nowadays of mostly dual-earners (Gonalons-Pons and Schwartz 2017; Raley et al. 2006). Despite current asymmetries between men and women regarding the gender pay gap and the unequal distribution of domestic work, women are achieving higher levels of education and outperforming men in educational attainment in Europe (De Hauw et al. 2017; Vincent-Lancrin 2008), North America (Diprete and Buchmann 2006) and, also, in non-Western countries (Esteve et al. 2016). It means for the first time in history there are more educated women than men reaching a reproductive age.

All these factors have been the objects of sociological, demographic and economic inquiries and, also, standpoints from which to look at changes in assortative mating. Among a wide variety of empirical and statistical approaches (for reviews see: Blossfeld 2009; Lichter 2019), theories and hypotheses on the changes and patterns of assortative mating have flourished in recent decades.

In sociology, the broad framework of the theory of modernisation has predicted that these sociocultural changes have allowed marriage choices to be founded on romantic love and to come untied from traditional social bonds and paths. One of the best empirical applications of this theory holds that, currently, resources involved in assortative couple formation are achieved rather than ascribed. This means that individuals may be less constrained by their socioeconomic and cultural backgrounds and mate with people who have similar characteristics to their own achieved ones – such as educational level – rather than people with similar social and cultural origins, such as family socioeconomic background and race (Kalmijn 1991, 1994; Rosenfeld 2008).

In line with new possibilities created by the delay of couple formation and geographical mobility, young adults can meet more potential partners outside of their own social and cultural backgrounds, and also their own potentially racially and ethnically segregated neighbourhoods (Rosenfeld 2008). Despite a partial tendency to racial and religious endogamy, empirical evidence has not been very consistent regarding an increase in educational homogamy (Blossfeld 2009; Kalmijn 1998; Schwartz 2013).

Beyond this, the structural proximity of people who have attained the same educational level as well as the recent educational achievements of women, are factors that have been investigated as determinants of potential changes in educational homogamy (Blossfeld 2009; Blossfeld and Timm 2003). More

recently, scholars have focused on the study of the implications of the reversal of the gender gap in education on couple formation and family dynamics (Bavel et al. 2018). Both the United States and almost all European countries are witnessing a decrease of hypergamy in favour of an increase of hypogamy (De Hauw et al. 2017; Esteve et al. 2016; Schwartz and Mare 2005).

Moreover, highly educated women no longer have a lower probability of marriage; in contrast, they marry more often than less educated women, reflecting what has been the case for men. However, the evidence does not yet hold for less egalitarian countries, such as those in Southern Europe (Bertrand et al. 2016). Also, it is not clear if this lower probability of marriage for less educated women is a result of the economic instability of men with low levels of education (De Hauw et al. 2017).

Despite educational hypogamy, income homogamy is still strong. Scholars have recently shown that, rather than a stronger sorting of couples compared to the past , it is the changes in the division of paid work within the couple that are the main determinants of status homogamy (Gonalons-Pons and Schwartz 2017; Greenwood et al. 2014). According to Bavel et al. (2018), women's educational level may strengthen the probability of finding a high-income partner which, in turn, increases their own income, especially among the highly educated. And this makes sense in the light of an increase in homogamy due to the development of the dual-earner family (Gonalons-Pons and Schwartz 2017). However, the absence of a direct link between educational hypogamy to income hypogamy is also associated with asymmetric gender factors such as the "cost of motherhood" (Anderson et al. 2002; Budig et al. 2012; Dotti Sani 2015). Another factor may be the gender segregation in the field of study and occupation marked by women in less lucrative fields and men in more profitable ones (F.D. Blau et al. 2013; Charles and Bradley 2009; Levanon and Grusky 2016).

Even if families with female breadwinners are increasing, especially among educationally hypogamic couples (Klesment and Bavel 2017), low employment rate of the male is generally the primary determinant rather than gender egalitarianism (Raley et al. 2006; Vitali and Arpino 2016). Meanwhile, in the context of the current predominance of dual-earner families, women and men also distribute domestic housework more equally in comparison to the past, even if the woman's share is still greater ((Altintas and Sullivan 2016; Sullivan et al. 2018).

In this regard, the impact of egalitarian gender values on the division of labour between partners is not consistent. Some evidence, both quantitative

and qualitative, shows that even liberal high-income women still assert that they do more housework than their partner (Crompton and Lyonett, 2007 2015).

These factors challenge the idea that gender egalitarianism follows gender symmetry directly in personal life-course and decisions, and within families' dynamics. By considering the evidence from Western countries, we are faced with inconsistent data that instead suggests that mating behaviour is a complex phenomenon and a product of the exchange of gender resources when forming a couple and a family.

In summary, despite partial evidence, the overall idea that free choice and romantic love would have trumped social boundaries has been disappointed. Underlying trends of assortative mating are still active. Beyond this, boundaries between the traditional roles of men and women are less defined even if asymmetries are still present. It is indisputable that marriage is today more flexible and egalitarian and no longer conforms to the configuration of male-breadwinner and female-homemaker (Schwartz 2013).

In this context, understanding what women and men desire and prefer in a partner is relevant because it may clarify the extent to which mating patterns and gender asymmetries are associated with men's and women's values and preferences, or are just a product of structural opportunities and constrains.

1.2 Literature review on mating preferences

1.2.1 What is attractive in a romantic partner

Overall, the evidence shows that both men and women strongly value a partner's intelligence, kindness, emotional stability and good health (Buss 1989). Moreover, both men and women prefer to find a partner who is similar to themselves with regard to cultural traits such as ethnicity (Feliciano et al. 2008; Lin and Lundquist 2013; Lundquist and Lin 2015; Potarca and Mills 2015), religion (Furnham 2009) and educational level (Skopek, Schulz, et al. 2011; Stone 2008; Whyte and Torgler 2017). When they differ, women express a greater preference for similarity than men. Both religious and political compatibility are not particularly valued compared to other traits. Religious values are rated as more important than political values perhaps because they are associated with one's own personal beliefs . Indeed, more conservative and religious people stress more concern on religious compatibility in a partner

(Furnham 2009).

Also, in searching for a partner, women tend to be more selective whereas men tend to be less so. This is proven by several pieces of evidence. Women are, on average, less prone to engage in casual sex and care more than men about a partner's commitment in a relationship (Mcclintock 2011; Schmitt 2003). In evaluating partner attributes, women tend to consider all traits carefully (Buss 1989; De Vries 2010; Furnham 2009; Hitsch et al. 2010). On internet dating websites, women contact fewer men compared to the number of women approached by men; also, they reply to fewer messages than men (Hitsch et al. 2010; Skopek, Schulz, et al. 2011). In speed-dating experiments, the final number of men chosen by women as candidates they would like to meet again is much smaller than the number reported by men for women (Kurzban and Weeden 2005; Todd et al. 2007), and this is especially true in large groups (Fisman et al. 2006).

Beyond this evidence, empirical literature on mating preferences reports that men place more importance on physical beauty compared to women, while women are more interested in socioeconomic resources in a partner than men are (Buss 1989; Geary et al. 2004; Hitsch et al. 2010; Li et al. 2002; Pawlowski 2000). However, this pattern is intricate and needs careful evaluation. Firstly, it is necessary to investigate how these dimensions are measured. When asking people to evaluate the importance of a list of traits in a partner, "good looks" is a trait that is more valued by men (Buss 1989; Furnham 2009). This has changed recently in two ways. Firstly, both men and women care more about "good looks" now compared to the past. Moreover, the difference between men and women in evaluating "good looks" in a partner has decreased over time (Buss et al. 2001).

Furthermore, when respondents evaluated multidimensional personal profiles alongside pictures of a potential partner's face (such as studies using data from internet dating service websites or multifactorial experiments), women strongly evaluated facial beauty and the difference between men's and women's evaluation declines (Chappetta and Barth 2016; Hitsch et al. 2010; Lee et al. 2014). The same result is reported in speed-dating experiments (Kurzban and Weeden 2005; Todd et al. 2007). However, facial beauty is still slightly more important for men than women.

Empirical evidence also shows that women prefer men who are taller than average, while men prefer women who are of an average height, but the importance of partner height is, overall, more significant for women than men.

Thus, women prefer taller men, but men do not prefer shorter women in general, instead, they prefer women who are shorter as compared to themselves. Furthermore, women prefer larger differences in height between themselves and their partner than men do. Also, scholars report that taller women and shorter men prefer a smaller height differential than shorter women and taller men. Additionally, taller people prefer taller partners compared to shorter people (Courtiol et al. 2010; Salska et al. 2007; Stulp et al. 2013).

Another factor associated with attractiveness is age. As the preference for a partner's height varies with one's own height, also the preference for a partner's age varies with one's own age. Evidence shows that men tend to prefer slightly older women during adolescence and, as they age, their preference switches to younger women, and the preferred age difference between their own age and partner's age increases. On the contrary, women privilege men who are older than themselves but not too much older. Also, women show more variance in preference for age as they age themselves. Both evolutionary (Buunk et al. 2001; Kenrick and Keefe 1992; Salska et al. 2007) and sociological studies (Skopek, Schulz, et al. 2011) provide this evidence

Turning to socio-economic resources, women rate different indicators of present or future social status and financial stability as more desirable in a partner than men. These findings have been reported in the first studies on mating preferences in the U.S. (Hill 1945; McGinnis 1958; Hudson Henze 1969), confirmed cross-culturally (Buss 1989) and then more recently reconfirmed (Fales et al. 2016; Hitsch et al. 2010; Li et al. 2002).

Educational level has often been used as a proxy for good financial prospects and status (Whyte and Torgler 2017) as well as for intelligence (Lee et al. 2014). Otherwise, educational level has been framed as a culturally homogamous trait, such as religion and ethnicity. In so doing, researchers have asked respondents to evaluate a similar educational level compared with their own in a potential partner. Findings have shown that indeed the preference for educational level is homogamous, especially for women (Buss 1989).

Skopek, Schulz, et al. (2011) investigated the preferences for educational level by looking at the messaging behaviour of contacts and replies on a German dating website. The scholars reported a strong tendency towards educational homophily. However, women display significant differences from men in this preference. The importance of a partner having a similar level of education to them increases as the educational level of the individual incrases, but only in women. Moreover, beyond an overall preference for similarity, men tend to avoid

contacting highly educated women, while women tend to avoid contacting men with lower educational levels. Interestingly, men, when approached by highly educated women, tend to reply; whereas, when low-educated men contact highly educated women, their probability of getting an answer is very low. Similar findings were reported by Whyte and Torgler (2017) from analysis of contacts between users of the Australian dating website RSVP. Thus, evidence shows that both men and women prefer a partner with a similar educational level, but men are more willing to consider a potential partner with a lower educational level than women. Again, this evidence proves a more demanding attitude of women in evaluating potential partners.

In this regard, studies that rely on internet dating services or in which respondents are asked to make a trade-off between desirable traits in a potential partner, tend to estimate people's preferences in a more realistic way. These research settings permit researchers to estimate the relative importance of a trait on people's overall attractiveness and, also, to compare different cues of social status and attractiveness. An interesting study comes from the budget method implemented by Li et al. (2002). Respondents were asked to evaluate partners' attributes by distributing a number of coins to each of them. When the amount given to each respondent was changed, the distribution of the coins varied. When the amount was low, men's and women's preferences differed from each other, in line with previous results. Instead, when it was high, they did not differ. This finding may demonstrate that the differences in mating preferences are mostly due to a trade-off based on a different logic of priorities between men and women. That is, when the number of coins to be distributed between traits was low, respondents placed more importance on characteristics that are "necessities"; while when the amount was higher, they could also consider traits that are "luxuries" (Li et al. 2002).

However, from a sociological standpoint, we may be interested in how men and women value and trade socioeconomic resources in selecting a partner. Unfortunately, studies that investigate the relative value of different socioeconomic traits are few.

Hitsch et al. (2010) analysed data from two dating websites in the United States and show that preferences for educational level are homogamous for both genders, even if this is demonstrated in a clearer way for women, but preferences for income and occupational prestige are not. Thus, women care a lot about both; instead, men are concerned only that there is an "acceptable" level of income.

In the context of speed-dating events, some experiments have reported that the importance of cues of social status, such as educational level and income, is inconsequential for both men and women. They both place more importance on physical characteristics. Anyway, women are still more selective (Eastwick and Finkel 2008; Kurzban and Weeden 2005; Lenton et al. 2009; Luo et al. 2009). Also, further speed-dating experiments have reported that women's dating decisions are based on a potential partner's intelligence (Fisman et al. 2006; Todd et al. 2007) and income (Asendorpf et al. 2011) than men's ones.

Psychological traits may also be cues for status. In a multifactorial experimental setting, Snyder et al. (2008) investigated the relationship between prestige and dominance and found that prestige is always preferred by women while high dominance is considered desirable just in the context of sports competition or in a short-term partner.

Relying on findings from several experiments set up in Germany, Greitemeyer (2007) states that when respondents are asked to evaluate fictive profiles of potential partners based on attractiveness and income, men assess female profiles with a low income as more attractive compared to those with higher income. But, when adding educational level into the profiles, the difference in preferences for income levels becomes not significant, while preferences instead for educational levels appear, showing a male aversion for women with higher levels of education. This study differs from previous findings, but it is the only one that has recently included two socioeconomic traits in an experimental study with the aim of investigating the trade-offs made between each of them and attractiveness. Also, this study shows that contextual differences may emerge especially when considering the trade-off between different indicators of social status.

Other experiments show that generally, women are more concerned about men's income levels but that men also place importance on this trait in women, even if less so. For example, Kenrick et al. (2001) manipulated income levels and attractiveness (with facial images) only and found that a partner's income is important for men but less than for women. Ha et al. (2010) investigated the relationship between preferences for attractiveness and status in a potential partner among adolescents in the Netherlands. The scholars found that differences between girls and boys are small. Both evaluate attractiveness in a potential partner, but men consider status only when they are evaluating profiles of attractive girls. On the contrary, girls tend to always evaluate status.

Overall, recent experimental findings have rescaled the differences in pref-

erences between men and women but there is a lack of evidence from studies focused on different socioeconomic traits, such as income, educational levels and status prospects.

1.2.2 Individual and contextual variation in mating preferences: a focus on gender egalitarianism

Variations in mating preferences have been investigated by considering contextual factors such as type of relationship (short-term vs. long term) (Buss and Schmitt 1993; Confer et al. 2010; Greitemeyer 2007; Kenrick et al. 2001; Li and Kenrick 2006; Li et al. 2002; Little et al. 2008; Scheib 2001; Schmitt 2008), the presence of pathogens, and resource scarcity (Lee and Zietsch 2011; Stone 2008). On the individual level, evidence shows that preferences vary with psychological factors such as personality traits (Botwin et al. 1997; Schmitt 2008) and with women's ovulatory cycle (Debruine et al. 2005; Feinberg et al. 2005; Gangestad et al. 2007; Little et al. 2007). There is also interesting research that focuses on homosexual mating preferences (Lippa 2007).

Moreover, evidence reports that mating preferences can vary with one's mate value. As already stated for height and age (Buunk et al. 2001; Kenrick and Keefe 1992), mating preferences vary with an individual's own characteristics. Additionally, both self-reported attractiveness and attractiveness that is evaluated by others, are associated with variation in mating preferences. Overall, more attractive people are typically more selective with their mating preferences. Thus, as a person's mate value increases, his or her preferences are stronger. South (1991) reports that individuals who obtain more resources have a more considerable bargaining power when searching for a mate and end up declaring more normative preferences. That is, high-status men have stronger preferences for attractive women, and beautiful women have stronger preferences for high-status men. In this regard, Buss and Shackelford (2008) show that beautiful women become more selective than less attractive women. This also holds true for men (Kurzban and Weeden 2005).

Scholars from both sociology and social psychology endorse the idea that mating preferences are associated with traditional gender roles. A matter of debate arises when considering the variation in female mating preferences with women's socioeconomic resources. When achieving a higher level of education and being empowered beyond the traditional housekeeper role, women should be freer to consider other characteristics when choosing a partner. Evidence on

the variation of mating preferences with a woman's own resources is inconsistent. Some studies insist on the negative relationship between women's resources and their desire for men's resources (Kasser and Sharma 1999; Moore and Cassidy 2007). Conversely, other studies report that as women's socioeconomic resources increase, their preference for a partner's resources also increases (Anderson et al. 2002; Buss and Barnes 1986; Townsend 1998; Wiederman and Allgeier 1992).

However, some essential changes in mating preferences over time have been reported. Buss et al. (2001) report that, in the U.S., the importance of mutual attraction and love, intelligence, education, sociability, and good looks increased in the last 50 years for both men and women. Meanwhile, the importance of chastity, refinement and neatness has decreased. Moreover, women place less importance on ambition and industriousness, and men on finding a good cook and housekeeper. Additionally, men have increased their concern about similar educational levels and good financial prospects in women. In line with this, further research has reported that educational level and steady employment are more important from men when comparing to the past (South 1991).

From a structural standpoint, Eagly and Wood (1999) have shown that differences in mating preferences between men and women are associated with the Gender Empowerment Measure (GEM) and the Gender Development Index (GDI) across countries. Reanalysing the data from the 37 cultures examined in Buss's study (1989), the scholars found that in countries where women have high-status roles, differences in men's and women's preferences for earning potential and good housekeepers are smaller. Also, the difference in preference for age decreases, but not for attractiveness. Thus, gender equality does not influence men's greater preference for physical attractiveness in women. Following this study, Zentner and Mitura (2012) also reanalysed Buss's data on mate preferences, but also gathered new data from 10 nations. Instead of the GEM and GDI, the scholars looked for an association with the Gender Gap Index. Again, a negative relation between gender equality and differences in mating preferences was reported. However, the scholars reported a positive association between gender equality and the difference in preference for good looks that strengthens the traditional pattern.

In line with this, Lippa (2007) has reported that as gender equality increases the value of overall "niceness" (honesty, humour, kindness, dependability, communication skills) also increases for both genders, but also the difference that men and women place in "niceness" in a partner . In other words, women

in egalitarian countries consider an overall "nice" partner to be more desirable, compared to women in less gender-equal countries. Further, intelligence in a partner seems to be more important to women in less developed countries, but in more developed ones, it is more important to men. Also, the importance of emotions in a relationship is generally less crucial for women in less developed countries where survival issues are more crucial (Stone 2008).

Despite some inconsistencies, this evidence generally proves the role of cultural and structural factors in shaping both gender relations and mating preferences. However, on the individual level, the association between egalitarian gender values and mating preferences is less clear. Studies report that when people have more traditional gender values, their preferences follow more conventional patterns. Thus, more traditional men have higher preferences for attractive women, while more traditional women are more concerned about a potential partner's resources (Eastwick et al. 2014; Johannesen-Schmidt and Eagly 2002; Travaglia et al. 2009). Most of the studies that have reported this evidence rely on the Ambivalent Sexism Inventory (Glick et al. 1996). This measure is formed by two components, namely hostile sexism and benevolent sexism. To illustrate, ideas that demonstrate hostile sexism are, for example, "women exaggerate problems at work" and "once a man commits, she puts him on a tight leash"; while examples of benevolent sexism include "women should be cherished and protected by men" and "every man ought to have a woman be adores".

In this regard, some recent studies have reported that women prefer men who have an attitude of benevolent sexism (Cross et al. 2016; Gul and Kupfer 2019). Moreover, in an on-line experimental setting, Chappetta and Barth (2016) found that both men and women find attractive gender incongruent profiles of potential partners. If men and women follow traditional gender roles, they should also prefer a partner who is congruent to the traditional culture. Other studies using different measures found neither an association between women's and men's preferences for a partner's height or traditional gender values (Salska et al. 2007), nor for women's and men's preferences for a partner's social status, attractiveness or traditional gender values (Greitemeyer 2007).

1.3   Research questions

An extensive literature review shows that men and women have both similar and different preferences when evaluating a potential partner. However, empirical literature is lacking in studies that investigate the evaluation of a partner's attractiveness as a trade-off between physical, socioeconomic and cultural traits. Thus, this study contribute to the literature with a full factorial survey experiment.

In the contemporary context, in which women are outperforming men in universities, understanding how both men and women evaluate simultaneously different cues of social status in a potential partner can enhance our knowledge of the partner selection process and gender relations. Among people who are achieving a high level of education, the trade-off process put in place during partner evaluation may clarify whether a higher earning potential of educated people may lead to a greater similarity between what men and women consider desirable in a partner.

Thus, firstly, this study aims to answer the following questions:

- Do heterosexual mating preferences for age, facial beauty, height, educational level, wealth, career prospects and religious values vary between women and men enrolled in Master's degrees?

- Does the relative value of age, height, educational level, wealth and career prospects vary with a potential partner's facial beauty and between men and women enrolled in Master's degrees?

Moreover, given the potential variation of mating preferences within genders, this study aims also to answer the following further questions:

- Do heterosexual mating preferences for all the above traits vary among women and men enrolled in Master's degrees, considering their socioeconomic status?

- Do heterosexual mating preferences for all the above traits vary considering their cultural background?

1.4   An overview of this work

The present work follows this structure. In the second chapter, I present the two main theoretical perspectives on the study of mating behaviour. Firstly,

I discuss the sociological framework and highlight definitions and hypotheses regarding mating preferences. Secondly, I frame the evolutionary perspective, focusing on theories and hypotheses of mating preferences. I also stress the strength of the evolutionary reasoning by both reporting some evidence on human behaviour and discussing some of the debates surrounding mating strategies and the differences between men and women. In the third chapter, I present the research design in detail. I briefly discuss the strength of factorial survey designs in sociology and then delineate every step of the experiment construction. I also describe every step of the data collection. Finally, I report the statistical model for the analysis.

In the fourth chapter, I discuss the results of a multilevel analysis, namely the causal impact of each trait on male and female ratings and the differences between men and women. Moreover, I show how age, height, educational level, wealth and career prospects vary with a potential partner's facial beauty both between and within men and women. In the fifth chapter, I investigate the differences in mating preferences, considering respondents' variability regarding their socioeconomic and cultural background. Finally, I end this work by discussing the findings and the limits of my experiment.

Chapter 2

Theoretical perspectives on human mating preferences

The exchange of resources between romantic partners

2.1 The framework of mating preferences in social sciences

2.1.1 Individual and structural elements of mate choice

The most comprehensive theoretical background on the study of mating behaviour in social sciences traces its roots back to the assimilation of rational choice theory in the social exchange framework. As argued by Emerson (1976), social exchange is a theoretical framework rather than a specific theory because it has many different versions across different disciplines. Variations of this framework may differ depending on the perspective – micro or macro – and the conception of the relationship between actor and structure – individualist or collectivist (Emerson 1976). In this regard, Turner (1986) states that:

"Current exchange theories (are) a curious and unspecified mixture of utilitarian economics, functional anthropology, conflict sociology, and behavioral psychology. As a result, tracing the roots of exchange theory is an eclectic and uncertain enterprise."

Beyond this variety, the social exchange perspective became a fundamental tool in the study of the family at the end of the sixties, thanks to the works of Homans (1961) and Blau (1964) (Becker 1974; Edwards 1969; Elder 1969;

Taylor and Glenn 1976).[1]

Originally based on behavioural psychology and only implicitly on classical economics, the exchange perspective focused on the study of relationships between dyads, with the aim of identifying the psychological roots of an exchange. The theoretical assumptions of the first formal formulation of social exchange recognised the alternation of costs and rewards, through the reinforcement of gratification, as an engine which drives the pursuit of relationships. This perspective entails an individualistic view, specifically an understanding of social structures as a result of individual actions towards the satisfaction of their own utility (Homans 1961).

Utilitarianism has strongly influenced the theoretical framework of the study of couple formation in social sciences, assimilating the theory of rational choice in the social exchange perspective (Emerson 1976; Sabatelli and Shehan 2009; Sprecher 1998). Assuming that individuals act rationally, they will trade resources to maximise their own utility and balance a mutual distribution of costs and rewards. Indeed, the social exchange takes place through a redistribution of resources between two individuals who gain their mate's resources by conceding their own. Thus, as long as the relationship produces more benefits than costs, it is balanced and therefore desirable (Homans 1961).

Despite the prominence of the individualist perspective of social exchange, a structuralist standpoint has also influenced the development of the social exchange framework and brought about the departure of psychological behaviourism. Face-to-face interactions become the starting point for viewing exchange behaviour as a non-rational response to the structure of the social system that constrains individual behaviour (Blau 1964).

These theoretical elements, based on a utilitarian perspective dampened by structuralist influence, may explain why the central concept that has guided the study of couple formation is the "mating market" as the place where individuals face the costs of competing with each other in the search for a partner with the desired resources. Moreover, the strong economic connotations of this phenomena are probably attributable to the influence of Becker Becker (1974) economic model of marriage.

Becker's microeconomic model of marriage has probably been the most influential work on marriage and partner selection studies in the social sciences.

[1] Although, concepts of social exchange were already present in Waller's (1937) studies on courtship and couple formation a few decades earlier and in theoretical works of Davis and Merton on status-caste exchange.

Even if also sharply criticised for his traditional view of the family as an institution based on the specialisation of gender roles, the contribution in terms of theoretical formulations is indisputable. As Schwartz (2013) reports, the success of Becker's model is due to the substantial capacity for empirical predictions that it provides.

Two assumptions are at the base of his model. First, given that marriage is fundamentally based on a free choice, the maximisation of one's own self-interest is the driver of partner search. That is, finding a partner is better than remaining single. Second, people compete with each other to "conquer" the best partner. Thus, this provides a basis for the concept of a marriage market to exist (Becker 1974).

The main issue in the study of mate choices and patterns is attempting to disentangle individual and social factors (Bavel et al. 2018; Lichter 2019; Schwartz 2013). According to Kalmijn (1998), mate choice is defined by individual preferences, the mating market, and third-party pressures. Individual preferences determine the characteristics that individuals prefer in a potential partner. Moreover, the marriage market is the place where individuals face both constraints and opportunities, and compete with each other, to obtain the best possible partner. Finally, third parties are institutions or social groups that restrict mate choices in favour of the maintenance of specific social boundaries. However, defining the boundaries between these three factors is an arduous task. In other words, it is not easy to empirically identify the impact of each element on partner choice and, therefore, to distinguish constraints, opportunities and preferences. Furthermore, it is not clear whether, and to what degree, these factors are independent of each other. If on the one hand, it is undeniable that this framework defines a dichotomy between actor and structure (Schmitz 2016), on the other side, social sciences often separate mating preferences from mate choices, and refer to structural explanations (socioeconomic or cultural) to explain mating preferences. Sociology, indeed, tends to consider these to be interdependent factors (Blossfeld and Timm 2003; Schmitz 2016; Skopek, Schulz, et al. 2011).

Moreover, social sciences have focused on the study of *choices*, investigating the association between partners' characteristics taking into account whether, and to what extent, social opportunities and constraints influence the process of couple formation over time. Being able to disentangle the individual contributions of different social and individual factors in shaping mating trends has been especially complicated by only examining mating choices.

Nevertheless, three main hypotheses of assortative mating have been formulated between the structural opportunities of the mating market and individual preferences in search of a partner.

2.1.2 Proximity hypothesis

As previously reported, the space in which individuals search for a partner affects their choices and has primarily been defined as the "mating market" (Becker 1974; Blau 1964). The work of Blau is probably one of the most influential and goes far beyond the study of marriages. Despite the prominence of the individualist perspective of social exchange, Blau brings structuralist elements to the development of social exchange by examining the underlying context constraints on individual behaviour. The spatial and demographic properties of social structures (such as the size of social groups within a population), the number of these social groups, and the degree of intersection between their characteristics, tend to shape and constrain individuals' opportunities for social exchange (Blau 1964; P.M. Blau et al. 1982; Mcpherson et al. 2001; Stauder 2014).

From this perspective, individuals evaluate others based on the value that a given resource has in the context in which they choose the partner. As in any market, the value of a resource is determined by its availability, distribution in space and the position of the individual in this space. In other words, the properties of the social structure in which individuals meet each other and form couples, influences the process of couple formation. It means, from a "supply-side" perspective, that individual action is constrained by social networks that vary with age and relative social contexts (Kalmijn and Flap 2001). In this way, homogamy may be considered to be primarily influenced by the setting in which individuals exist. Being local, mating markets, such as neighbourhoods, schools, or universities, are strongly segregated regarding socio-cultural characteristics, and homogamy and endogamy may have a primarily structural cause. For instance, studies on the educational system as a marriage market have grown in the last two decades and have shown that educational homogamy is dependent on the educational attainment level of individuals (Blossfeld 2009; Blossfeld and Timm 2003). As a result, the opportunities structure of a marriage market may determine couple assortment independently of the presence of specific homogamous preferences (P.M. Blau et al. 1982; Grow and Van Bavel 2015; Tomaskovic-Devey and Tomaskovic 1988).

2.1.3 Mating preferences: competition versus matching

In line with rational choice theory, the first hypothesis on mating preferences states that the tendency to maximise one's advantages is the primary motivation in the search for a partner. Therefore individuals seek highly desirable partners with the aim of obtaining socioeconomic resources (Becker 1974).

However, the resources of social exchange are not as quantifiable as those of economic exchange, so it is not possible to objectively measure the equity of each party's contribution. That is, resources are often intrinsic to the individual and the relationships themselves, and therefore are not easily separated from the individuals and from the contexts in which they exist (Blau 1964; Homans 1961). This means that individuals do not have objective measures of the equity of an exchange, given their incomplete information on the surrounding circumstances.

Following Todd and Miller (1999), individual preferences for mate resources vary with their own mate-value, meaning the self-perception of one's value in the context of partner search. To put it differently, individuals have an awareness of their resources and constraints, and this awareness guides them in their choices.

In this regard, explanations of assortative mating generally follow the decision-making model of Gigerenzer et al. (1999), founded on an evolutionary perspective of human social behaviour. According to the authors, imperfect knowledge of the surrounding world limits individual rationality; thus individuals make their decisions using frugal and straightforward heuristics. Taking into consideration, therefore, the various costs and opportunities based on their own characteristics and resources, individuals select the best overall candidate rather than the ideal candidate (Todd and Miller 1999). In other words, if all individuals compete for the "conquest" of the best partners, those with more resources (and therefore the most desirable mates) will tend to fulfil their aspirations to a greater degree than those who have less. As a consequence, individuals maximise their own utility in relative terms rather than absolute terms. Thus, to minimise costs and avoid worsening their socioeconomic situation, individuals form a couple with those partners who are at least at their same socioeconomic level.

The second hypothesis regarding mating preferences argues that individuals have preferences for partners who have similar characteristics to their own.

That is, an underlying tendency towards homophily governs social behaviour (Blau 1964; Homans 1961; Kalmijn 1994; Mcpherson et al. 2001). In addition to the structure of opportunities, the sharing of values, opinions and visions of the world increases mutual understanding and the involvement of the individual within the relationship, in turn strengthening the couple (Dimaggio and Mohr 1985).

These hypotheses are not opposite but complementary since the first relates to the exchange of socioeconomic resources while the second concerns the exchange of cultural resources; thus the first entails a *competition* and the second a *matching* (Kalmijn 1994; Schwartz 2013). Furthermore, Lin and Lundquist (2013) note that evidence of one hypothesis over the other one is unlikely when investigating the mating preferences of high-status people.

Moreover, these two hypotheses on preferences have been given different labels from scholars. Matching is often acknowledged as "the like like the like" pattern and when referencing cultural traits, defined by Becker (1974) "complements". More recently Hitsch et al. (2010) named these "horizontal" preferences, while those that entail a competition are labelled as "vertical". In this regard, the competition hypothesis on mating preferences is less delineated by social sciences theory. It can refer just to an overall maximisation of individual worth or to a propensity for obtaining opposite-sex resources. The first definition refers more to the general framework of rational choice and attempts to explain the overall assortative mating pattern as a function of utility maximisation structured in a mating market. The second one is more specific to the exchange dynamics in couple formation and has been applied in different ways with the aim of explaining differences between the genders. In this regard, vertical traits have been defined by Becker (1974) as "supplements", given his functionalist idea of the family. In the following section, I deepen the perspective of social exchange by defining potential sources and resources of exchange between men and women.

2.2   Gender-specific exchanges: the pressure of culture

2.2.1   Potential social exchanges between women and men

How men and women exchange physical beauty, social prestige or socioeconomic resources is a matter for discussion, especially in the contemporary context. Inside the study of mating behaviour, we can identify three main hypotheses of exchange between partners: the status-caste, the beauty-status and the breadwinner-homemaker .

The status-caste exchange

The status-caste exchange – or racial-economic exchange theory – states that intermarriage couples are formed by a high-status man and a high-caste woman based on an exchange between male socioeconomic status resources and female caste privileges (Merton, 1941, Davis, 1941). Indeed, forms of status-caste exchange are reported in intermarriages that are mostly formed by native women and minority men (Choi and Tienda 2016; Fu 2001; Kalmijn 1993; Schoen and Wooldredge 1989). Thus, there is a widespread agreement on the fact that socioeconomic resources may be an incentive for minority men to marry outside of their ethnic group. Other studies stress the predominance of homogamy, demonstrating that intermarried couples tend to have the same educational level (Rosenfeld 2005). In this regard, a debate on analytical models is ongoing (Gullickson and Fu 2010; Kalmijn 2010; Rosenfeld 2010).

Meanwhile, Sassler and Joyner (2011) have shown that, instead, couples formed by minority women and white men are more often associated with a faster transition to a sexual relationship and cohabitation, compared to other couples. It appears that faster consent to relationship initiation may be a way for minority women to achieve the socioeconomic resources of dominant men.

In both cases, an exchange between genders may be at play in which men generally share their socioeconomic resources and women concede cultural privileges, sexual access and beauty.

The beauty-status exchange

The beauty-status exchange posits that couples may be formed due to male socioeconomic resources and female physical resources (Elder 1969; Taylor and Glenn 1976; Waller 1937). Past studies from the U.S. have failed to take into consideration men's attractiveness, underestimating the potential matching along this trait (Elder 1969; Taylor and Glenn 1976; Udry 1977). These studies find a small but positive association between male socioeconomic resources and female attractiveness in couples. Also, this holds true especially for disadvantaged women, such as those from the working class (Elder 1969) or black women (Udry 1977). However, female education is also correlated with finding a high-status man (Taylor and Glenn 1976; Udry 1977). Other studies do not find evidence for a beauty-status exchange, and instead, have reported patterns of assortative mating (Carmalt et al. 2008; McClintock 2014; Stevens et al. 1990).

However, it is difficult to draw a definite conclusion on the beauty-status exchange between genders, given the ongoing debate on measures and findings (Gullickson 2017). Indeed, for instance, McClintock (2014) challenged previous research by showing that, by controlling for matching on physical attractiveness and socioeconomic status, almost no proof of beauty-status exchange is verified. Beyond a potential misunderstanding of sociobiological theory by McClintock (2014), her analyses have been criticised by Gullickson (2017). He argued that she used poor measures of exchange, and estimated the difference between male and female physical attractiveness instead of the overall effect of female attractiveness, which ends up being statistically significant and sizable.

Regarding beauty-status exchange, a possible link can be found with Hakim's theory of erotic capital, and her following studies. In line with this theory, people do not exchange just their economic and cultural capital in a sexual and romantic relationship, but also physical resources, which are named "erotic capital" by the author. These resources are independent of social origins and present a different value for women and men. Primarily determined by men's sexual deficit, namely a stronger (and often unsatisfied) male necessity for sex, women's erotic capital has a higher value and leads women to exploit it in their achievement of social status (Hakim 2010, 2015). Theories of women's erotic capital and men's sexual deficit are a promising lens through which to look at social dynamics and gender relations.

Beyond a traditional view of marriage and gender relationships that once

permeated sociology (Rosenfeld 2005), it seems that contemporary sociologists have dismissed the status-beauty exchange theory, associating it to traditional sexist culture, rather than considering the studies that have recently tried to test it. Already in 1977, Udry (1977, 160) ends his article stressing this clear point,

"Perhaps feminine beauty, like a beautiful day or a beautiful flower, is a lifter of the spirit and a quickener of the blood, but only a minor disturbance in the serious business of allocating the other scarce resources of the world."

Here, the scholar comments on the role of female beauty in exchange dynamics in couple formation stressing that is not the main component. However, this means something different to the concept that women may trade their physical resources for the achievement of status in society, because the value of their attractiveness is higher compared to men's (Hakim 2010; Udry and Eckland 1984).

The breadwinner-homemaker exchange

The breadwinner-homemaker theory argues that couples are gender-specialised, meaning they are formed on the exchange of men's work of paid labour and women's unpaid domestic work (Becker 1974). In Becker's model of family utility, the exchange within a couple was predicted to be between complementary and supplementary traits, respectively cultural traits based on similarity, and socioeconomic attributes based on gender-specialised roles. The supplementary traits are the resources of male paid labour and those produced by women's domestic work. Similarly, women can exchange the status and prestige granted by a high socioeconomic background. This vision was strongly inspired by Parson's conception of the family, according to which, the specialisation of partners within a couple was the source of marital stability (1949). In fact, according to Becker's economic model, the division of labour within the family is the central engine of exchange and destabilisation in marriages is associated with a weakening of gender-specialisation within the couple.

Sanchez et al. (1998) investigated the association between gender-specialisation, gender egalitarian beliefs and the odds of either marriage or separation. They reported that the gender-specialisation model increases the odds of marriage, but so do the egalitarian beliefs of men. Additionally, they demonstrated that an increase in female domestic work hours and earnings is associated with increased odds of separation.

In contrast with Becker's traditional vision of the family, scholars have suggested that changes in the process of couple formation are mainly associated with greater female economic independence and male economic instability, which have led to a slowdown in marital family formation processes and higher odds of dissolution, rather than lower odds of marriage (Oppenheimer 1988, 1994, 1997). Moreover, families today are mainly dual-earner, and evidence shows that equal division of childcare and housework enhances sexual intimacy and relationship quality for both women and men (Carlson, Hanson, et al. 2016; Carlson, Miller, et al. 2016).

Social exchange perspective has traditionally been the lens with which social scientists looked at the difference in mating preferences between men and women. How the social exchange perspective has been put in practice and tested is more a synthesis of these three versions. The main general assumption is that men tend to offer financial stability in exchange for women's domestic work and sexual access. Nevertheless, as reported by Goode (1996), the notion of gender roles as complementary in the constitution of the couple has been abandoned since the 1980s. According to Goode, genders are not complementary but typically "crash and conflict".

However, the main theoretical problem of social exchange is that it is not able to explain why the exchange takes place and why between these particular characteristics. More recently, perhaps because of the changes in family dynamics and women's role in society, the social exchange perspective has been abandoned in favour of the two more general hypotheses of competition and matching. Even if these do not exclude an exchange within couples, sociology has associated gender differentiated attitudes and preferences with gender cultural roles. Thus, along with the progress of egalitarianism, men's and women's attitudes and preferences should converge.

Surely, in the light of contemporary changes in women's roles, assuming that a marriage relies on gender-specialisation in the division of paid and domestic labour is not still possible. Meanwhile, attributing potential changes in women's and men's mating preferences only to the gender-specialisation in the division of paid and domestic labour, may also be an incomplete framework for partner selection as a social exchange phenomenon.

2.2.2 Gender roles and egalitarianism

As women entered the labour force, Becker's gender-specialised exchange lost its predictive power for socioeconomic research. In social sciences, the idea prevails that the nature of competition for socioeconomic resources in the process of couple formation changes with the role of women in society. Thus, women may have more freedom to choose a partner for love, rather than money and status, and men may compete to "conquer" high-status women. Overall, female and male mating preferences should converge (Bavel et al. 2018; Blossfeld et al. 1998; Kalmijn 1998; Schwartz 2013).

According to Kalmijn (1998), there are good reasons to believe that women are acquiring greater contractual power regarding the exchange of resources within a couple, as they are no longer so dependent on men. This may, therefore, translate into an increase in the socioeconomic value of women from the male point of view, and consequently the rise of homogamy and hypergamy (Bavel et al. 2018; Blossfeld et al. 1998; Kalmijn 1998).

Thus, individual preferences are strongly related to context, namely to the cultural and economic structure. And gender differences, regarding social and psychological dimensions, reflect social norms and role expectations. As gender roles move towards an equal distribution of resources and expectations, preferences change and overlap between genders. In this regard, one of the few studies from evolutionary psychology (Buss et al. 2001) that sociologists reference – despite the extensive empirical literature on mating preferences in this discipline – demonstrated that changes in female and male mating preferences are, in part, consistent with what might be expected from the relaxation of gender-specialised roles, but that there is not a complete overlap between them.

Schwartz (2013) stressed the fact that a more egalitarian redistribution of resources between partners and an overall competition for partner resources may also be a result of other factors such as the increase in the cost of living and the cost of bearing children, male income and job instability and an overall economic uncertainty (Oppenheimer 1988). Thus, again, only looking at choices is not a good way to disentangle structural and individual factors in partner selection.

Therefore, a challenge for sociology is to define (and consequently measure) gender roles, or more broadly gender ideology, since it is not univocal. To illustrate this point through two examples, Davis and Greenstein (2009) defined

gender ideology as an agreement about the division of roles of responsibility for paid work and domestic work. Alternatively, Dorius and Alwin (2010) described it in more general terms as the interconnection of behaviours, values, and beliefs that relate to gender. Moreover, gender ideology generally encompasses, at least, two dimensions of value: equity values (difference regarding rights between genders) and essentialism values (regarding differing attitudes between sexes).

Despite the multidimensional nature of gender ideology, predictions about it have foreseen a change over time from traditional gender values to a more liberal values, in line with modernisation theory (Brewster and Padavic 2000; Brooks and Bolzendahl 2004; Davis and Greenstein 2009; Dorius and Alwin 2010). In recent decades, these predictions on gender values (both preferences and roles) are being challenged by the constant asymmetry between men and women in several social situations (Cotter and Hermsen 2011; Dorius and Alwin 2010; England 2008). For example, gender work segregation is still distinct and is related to gender segregation in choices of fields of study. Women choose fields of study and occupations associated with care more often than men, and also tend to select scientific activities less frequently than men (Charles and Bradley 2009; Grusky and Levanon 2008; Levanon and Grusky 2016). Moreover, while the gender income gap is still high in many Western countries, domestic work continues to fall mainly on women's shoulders (Breen et al. 2005; Fuwa 2004; Hook 2006).

In this regard, some sociologists have argued that considering equality values and essentialist values to be incompatible may be problematic (Grusky and Levanon 2008; Knight and Brinton 2017). Furthermore, they have challenged the association between traditionalist culture and gender asymmetry and between egalitarian culture and gender symmetry. These conceptual associations, indeed, do not consider individual choice as a relevant factor (Cotter and Hermsen 2011; Grusky and Levanon 2008).

Asymmetries between men's and women's choices, preferences and roles is one of the most challenging topics of family studies. On the one hand, the social exchange perspective, and in particular Becker's gender-specialisation model, is to some extent obsolete and associated with a traditional vision of the family that risks restricting men and women in outdated gender-specific roles. On the other hand, the evidence is still controversial: in spite of female achievement in tertiary education and female entry into the labour market, not from necessity but through free choice and the need for personal fulfilment, gender-neutral roles are far from being the main pattern. Moreover, it is not

clear to what extent gender differences in preferences and choices are associated with gender egalitarian values. Despite these unclear factors, the sociological framework of mating choices overcomes differences between men and women in their preferences by associating them to structural factors that are both socioeconomic and cultural, such as gender norms.

2.3 The framework of mating preferences in evolutionary sciences

2.3.1 Biological element of mate choice

The sociological perspective on mating behaviour typically disregards biological and evolutionary factors involved in attraction between men and women. Thus, mate choices are investigated only in terms of individual socioeconomic maximisation and structural circumstances. Although these are unquestionably important variables at play when individuals are in search of a mate, overlooking sex-roles in evolution is an issue that needs at least to be raised. In particular, this holds true in the face of the theoretical and empirical literature that studies human behaviour from an evolutionary perspective. In this regard, several scholars stress the necessity of the integration of social and natural sciences to gather a more consistent knowledge of human behaviour (Hopcroft 2018; Lopreato and Crippen 1999; Turner et al. 2015; Walsh 2014).

The framework of evolutionary approaches on the study of human behaviour stems from Darwinian theories of evolution and their subsequent developments. Three factors define the main postulates of Darwin's overall evolutionary theory: variation, selection, and hereditability. The first postulate states that every population presents a certain degree of traits variation as individuals differentiate between each other on physical and behavioural characteristics. The second postulate assumes a survival and reproduction differential between individuals due to different degrees of adaptation to the environment. Finally, the third postulate asserts that parents pass their traits on to their offspring (Boyd and Silk 2006).

Therefore, individuals with more adaptive traits have a higher probability of surviving as well as having more offspring who will reach reproductive age and reproduce as well. This means that adaptive characteristics spread in the population through future generations, making species evolution possible.

Thus, evolution is a process of accumulation of small mutations that promote the survival and reproduction of those who carried them (Pievani 2017).

Given traits variation and resources limitation, every individual struggles for existence under the strength of natural selection, in the form of environmental pressures. Thus, the biological imperative, shared by every living creature, pushes towards the maximisation of survival and reproduction – or fitness. However, in many species, we observe behaviour that does not only maximise individual fitness. In this regard, two fundamental theories have developed within natural selection theory. First, Hamilton's rule – kin selection theory – demonstrates that altruism towards relatives is adaptive because it maximises to some extent individual genetic representation (Hamilton 1964). Therefore, behaviour can also be altruistic rather than just selfish, and fitness is inclusive. Second, the level on which natural selection operates is a matter of debate, especially in social and cooperative species. Perhaps natural selection acts not just on the individual level but also on the group level. This would mean that individual behaviour may be a function of both individual and group survival, and thus may lead to individual maladaptive behaviour (i.e., personal sacrifice) that enhances group fitness (Pievani 2017).

Although there have been vibrant debates about evolutionary forces and theories over time, it is widely recognised that evolution is neither purposive nor intentional, but gradual; it is a casual product of individual and environmental characteristics. Indeed, the phenotype is the observable traits of an organism produced by the interaction of its genotype and the environment. Moreover, natural selection is not the only evolutionary mechanism. For instance, genetic drift happens when a group of individuals survives in a specific environment for casual reasons, and group migration into new environments may also contribute to evolution (Pievani 2017).

Beyond natural selection, sexual species have been affected by another selective pressure that stems from the sexual nature of reproduction. Sexual species present a certain degree of sexual dimorphism marked by both primary sexual traits – genitals – and secondary sexual traits, specifically body characteristics that differentiate males and females. Through the observation of sexual dimorphism, Darwin foresaw the existence of sexual selection, characterised by two selection forces: intra-sexual selection – the competition among same-sex individuals for the conquest of opposite-sex individuals – and intersexual selection – the competition between sexes for the conquest of opposite-sex resources which are necessary for reproduction. These underlying forces have shaped,

over time, secondary sexual traits which have provided sexes with abilities for competition and courtship. In most species, male competition and female choice are the primary forces of sexual selection, and therefore sexual selection has primarily acted on male bodies. In line with this, Darwin defined male physical traits armaments and ornaments. Classic examples of these traits are the peacock's tail and the deer's antler (Pilastro, 2007).

Apart from sexual dimorphism, two essential factors contribute to the understanding of reproductive behaviour in sexual species: the variance of reproductive success within each sex and between sexes, and the amount of parental investment. Building on Bateman (1948) experiments on *Drosophila Melanogaster*, the fruit fly, and empirical evidence from other species, Trivers (1972) recognises that, on average, male reproductive success varies more than female reproductive success. According to Bateman, this is associated with differences in sex cells. Female gametes are produced using more metabolic energy than male gametes. Moreover, female sex cells are fewer and bigger than male sex cells. As a consequence, females are more constrained by their ability to invest in the production of sex cells than males, whereas males are more limited by their capacity to fertilise female eggs compared with female capacity to get their eggs fertilised.

Based on this evidence, Trivers' theory of parental investment considers that mating behaviours may manifest differently between males and females due to the differential in the initial investment in gametes. For example, in most species, males gain more reproductive benefits than females in mating with different partners, given their low costs in producing sex cells. On the contrary, females are constrained by their high investment on sex cells and, thus, they are more concerned with choosing an optimal mating partner than in mating with many males. As a result, females are a limited resource for which males compete. In this logic, in species where females retain a higher variance of reproductive success, sexual roles are inverted.

Therefore, the central claim of Trivers' theory states that the distribution of parental investment defines mating behaviours and strategies. In most species, females invest more in offspring because of the higher costs they have in the production of gametes. Indeed, gestation, lactation, and breeding are a female prerogative in many species. In this logic, in most species male investment in offspring is very limited. However, to minimise parental investment is not often the best strategy for males, given that mating with multiple partners implies competition. Paternal investment may, therefore, be a better strategy

to maximise reproductive success. Moreover, internal fertilisation in most species gives females the certainty of their maternity but does not provide males with the certainty of their paternity. Thus, investing a lot in a female's offspring increases the probability of being the biological father. Indeed, often paternal investment, such as competition for and obtainment of resources, is fundamental in offspring survival (Krasnec et al. 2012).

Thus, different factors may moderate the influence of parental investment on mating behaviour, but sex roles are, in the view of Trivers' theory, defined by the amount of parental investment. Consequently, parental investment shapes mating behaviour and strategies. The sex on which offspring survival depends more, invests more resources in reproduction, and therefore, has more concerns about with whom to mate.

2.3.2 Human mating behaviour: evolutionary approaches

Despite humans' incredible abilities, there are no scientific reasons to disregard evolutionary theories in the study of human behaviour. This is particularly true when investigating human mating behaviour. Studying human behaviour from an evolutionary perspective means, first of all, taking into account the fascinating history of human evolution. Our human species, Homo Sapiens, descends from the homo genus and emerged in Africa about two hundred thousand years ago. For the largest part of our evolutionary history, we lived in small nomadic groups of people, hunting and gathering for survival. For tens of thousands of years, we shared the world with other human species and, in some cases, cohabited and mated with them, as with Homo Neanderthalensis. Several evolutionary advantages have permitted our ancestors to spread around the world while an incredible number of species, human and not, became extinct because of our arrival (Boyd and Silk 2006; Dixson 2009).

It is only about ten thousand years ago that agriculture allowed the development of large sedentary communities and the accumulation of resources. From that moment, human culture and technology made progress increasingly quickly, leading humans from the developing societies of the Fertile Crescent to our current globalised and digitalised societies. This period is short compared to our evolutionary history, during which selection pressures have shaped our morphology and brain, making us a species with different abilities than others. Our minds make our behaviour extraordinarily flexible and adaptive to different

circumstances and environments. Indeed, natural selection has shaped brains capable of learning from others, sharing and communicating through language. All these abilities have contributed to our culture and have had consequences for genetic evolution (Boyd and Silk 2006)

To apply an evolutionary approach to the study of human behaviour, researchers rely on the revolutionary idea of the phylogenetic tree of life at the foundation of Darwin's discoveries. This idea implies the common ancestry of all living beings, who share, with others, parts of their genetic heritages in varying degrees according to how far back in time they separated from their common origin. Following this, evolutionary biology uses the tool of comparison between species, particulary those that are nearby on the phylogenetic tree, to understand their morphology and behaviour. Similarly, evolutionary biology and evolutionary social sciences compare humans with primates, or better, human primates with non-human primates by two tools of reasoning: reasoning by homology, by looking at similarities, and reasoning by analogy, by looking at differences (Boyd and Silk 2006; Dixson 2009).

When studying humans, evolutionary researchers also compare contemporary developed societies with hunter-gatherer societies. Assuming that these societies live in similar conditions as our own species did for of the majority of our existence, looking at their behaviours, cultures and social organisation is a fertile ground to understand our origin, behaviour and cultural variance (Boyd and Silk 2006; Buss 2012).

Revalued by different disciplines, sexual selection theory and its developments have permitted the study of the human body, culture, and mating behaviour taking into account evolutionary history. Biosocial approaches have been developed by researchers from disciplines such as biology, anthropology, psychology, psychiatry and more recently other social sciences like economy and sociology. Several reviews have attempted to frame these approaches with the aim of creating order among labels and understanding the differences between contributions (Bolhuis et al. 2011; Brown and Richerson 2014; Brown et al. 2011; Laland and Brown 2011; Mesoudi et al. 2006; Mysterud 2004; Smith 2000; Smith et al. 2001). Often these perspectives overlap both on the theoretical level and the disciplinary provenance. Therefore it is not an easy endeavour to define boundaries between them. In this regard, it has been stressed that such a large number of different labels generates confusion and limits an integrated study of human behaviour and evolution (Lucchini 2008; Mesoudi et al. 2006; Mysterud 2004).

However, labels define boundaries and boundaries may be extremely important in defining perspectives and positions relative to the issues under debate (Bolhuis et al. 2011; Brown and Richerson 2014; Laland et al. 2016). Indeed, it is naïve to frame the discussion just in terms of nature versus nurture, or social sciences versus natural sciences. Among evolutionary disciplines debates have been heated since the Modern Synthesis, when evolutionary biology was established thanks to the fusion of Darwin's theory of evolution with Mendelian genetics (Laland and Brown 2011). In the context of mating behaviour and strategies, the debate is not just limited to culture versus biology. Evolutionary disciplines hold different views on how to investigate and interpret patterns of behaviour and differences between men and women.

In brief, three main groups of evolutionary approaches provide fertile ground for the study of human behaviour and dynamics. The first group includes the evolutionary versions of social and psychological sciences. Each of them has developed specific evolutionary theories and hypotheses more pertinent and relevant to its field. Of course, this implies recurring overlaps and mixtures of empirical evidence. Among this group, two disciplines stand out in terms of popularity and empirical production, especially regarding human mating behaviour: human ecology and evolutionary psychology.

Evolutionary human ecology studies how biological or behavioural traits maximise individual reproductive success in a particular environment. One of the main theories of this discipline is Life History Theory through which evolutionary ecology frames the study of resources investment over the life course. According to Life History Theory, the resources investment during life is made through trade-offs to fulfil needs for survival, growth and reproduction (Lawson 2011; Nettle et al. 2013).

Evolutionary psychology focuses on psychological mechanisms as an engine for adaptation. Each cognitive mechanism is a module evolved to solve a specific task that our species recurrently faced during evolutionary history. According to evolutionary psychologists, human behaviour has been shaped by selection pressures in the environment of evolutionary adaptedness (EEA). Human behaviour is extremely flexible to new environments, but the psychological mechanisms were selected in ancestral time and, therefore, may lead to maladaptive behaviour in the contemporary context (Buss 2012).

In the context of mating behaviour, a growing number of sociologists are assuming an evolutionary perspective to study couple formation and family dynamics. Under the new label of evolutionary family sociology, some re-

searchers aim to unify evolutionary contributions based on sexual selection and its developments – such as kin selection theory and parental investment theory.[2] This new discipline makes its own contribution by studying how genetics and psychological predispositions converge in forming intimate relationships, as well as the organisation of reproduction and caring within the household and society (Rotkrich 2018).

The second group of evolutionary disciplines consists of cultural evolutionary approaches to the study of human behaviour and culture transmission. Based on the dual inheritance theory, these approaches assume that cultural transmission acts on human behaviour and dynamics together with biological evolution and also in contrast with it (Cavalli-Sforza and Feldman 1981; Richerson and Boyd 2008). The interaction between two different forms of evolution activates the process of "niche construction" that leads to genetic and cultural adaptations that have a reciprocal impact (Boyd et al. 2011; Laland and O'Brien 2011). For instance, this perspective proposes an interesting view of fertility decline. A well-debated topic, fertility decline is for the cultural evolutionist an excellent example of how modern behaviour may show maladaptive patterns determined by cognitive rules of cultural transmission and social pressure (Colleran 2016; Goodman et al. 2012; Newson et al. 2005; Stulp and Barrett 2016b).

Finally, it is well worth considering another group of biosocial disciplines that focus on genetics and the neurological roots of behaviour and social dynamics. Behavioural genetics, socio-genetics, and cognitive neurology have recently developed thanks to DNA mapping and progress in human genetics and neurological research. Relevant examples in this context are socio-genetic studies on genetic heritability and reproductive behaviour (Conley Fletcher, 2017).

2.3.3 Evolutionary psychology hypotheses on mating preferences and strategies

Evolutionary psychology has been the main discipline studying human mating preferences. As reported, evolutionary psychology purports that human

---

[2] This aim stems from two main reasons. First, the forgotten roots of early sociology deserve to be reconsidered. In this regard, Westemark's (e.g. 1936) brilliant contributions in the study of human mating behavior with an evolutionary perspective were unfairly abandoned. Second, evolutionary family sociology may constitute a bridge between evolutionary contributions and with social sciences perspective (Rotkrich 2018).

behaviour has evolved to solve adaptive problems. The human mind has been formed by specific modules that have been selected during evolutionary history and are domain-specific. These cognitive unities are, thus, naturally specialised (Cosmides and Tooby 1992, 1994; Symons 1995; Buss 1995). Within evolutionary psychology, and based on Trivers theory of parental investment, Buss and Schmitt (1993, 2019) developed the Sexual Strategies Theory (SST).

The primary aim of this theory is to explain the variation in mating strategies and preferences both within each sex and between sexes. In line with these assumptions, sexual selective pressures may have lead to the evolution of physical characteristics and psychological predispositions that vary between sexes because men and women faced diverse challenges in terms of reproductive success. Thus, mating behaviour and sexual strategies have also evolved to solve adaptive problems in the environment of evolutionary adaptedness (EEA). According to SST, women should be more selective, and men should be less discriminating when in search of a partner. Furthermore, women should be more involved and men should be more competitive when choosing a partner.

Following SST, male short-term sexual strategies increase, on average, male reproductive success. At least on the theoretical level, mating with just one woman results in a man having fewer children than coupling with many partners. Thus, men should be more likely than women to invest in short-term mating, and to lower their standards in their search for a short-term partner in order to increase their probability of having sex (Schmitt 2003). Despite this, men have several advantages in pursuing a long-term relationship. First, this strategy allows them greater control over a woman and, thus, they may avoid the costs of paternity uncertainty. Second, they can gain social alliances by cooperating with the woman's extended family. Finally, a long-term commitment is more necessary to "conquer" a woman with a high mate value. Thus, the SST assumes that in the EEA, men investing in long-term strategies have to deal with specific problems. For example, paternal uncertainty is a particularly pressing problem when a man invests a lot in the offspring of a woman. In line with this, SST has formulated hypotheses regarding the evolution of male sexual jealousy and mate guarding in humans. Moreover, to maximise reproductive fitness and to address the problems of long-term mating, men may be able to identify female markers of sexual faithfulness to reduce the risk of cuckoldry, as well as cues of fertility, like attractiveness and youth, to increase their reproductive success Buss and Schmitt (1993, 2019).

In line with SST, most women should gain more of the benefits of long-term

relationships when they are associated with a large resource investment of a man in favour of the woman and the offspring. Access to food, money, status, and protection are female advantages when engaging in a long-term successful relationship (Buss 1989). Accordingly, women may face the problem of identifying men who are able to gather, detain and control different kinds of resources and are willing to invest them in the family in the long-term. As a result, women may find high-status men to be more attractive. However, women do also engage in short-term mating strategies for several reasons, like to maximise the genetic quality of their offspring. In this logic, women may be more selective regarding physical traits when engaging in short-term relationships.

Strategic Pluralism Theory (SPT) is an evolution of the SST. SPT develops and deepens the theory on issues surrounding the variability of mating strategies within each sex and with environmental conditions. The theory proposes that individuals – particularly women – have made trade-offs between two types of attributes when selecting a mate during evolutionary history: first, attributes that are markers of genetic quality, like symmetrical features, associated, according to the authors, with a good immune system; and second, attributes that are cues of provider quality, the willingness to invest resources in family well-being (Gangestad and Simpson 2000).

In theory, men and women should privilege mates who retain both genetic qualities and provider qualities. However, in line with SPT, people are forced to make trade-offs by both their own mate-value and surrounding environmental conditions. Thus, according to SPT, the two dimensions on which people evaluate mates should be negatively associated. To illustrate, women who have access to resources and help from their kin in raising offspring may be more likely to prioritise mates who display markers of genetic quality, rather than mates who are willing to be good providers. Moreover, men who are lacking in genetic quality should enhance their efforts in being a good provider and, thus, be more prone to focus on one long-term relationship, rather than short-term affairs. In both cases, by making trade-offs men and women maximise their reproductive benefits and take into account their mate-values and opposite-sex mating preferences (Gangestad and Simpson 2000).

SPT stresses that males should adapt their mating strategies according to female choice under specific environmental circumstances. For example, in environments where biparental care is particularly crucial for offspring survival, women should prefer provider qualities; whereas, in a case where there

is a diffusion of pathogens, women should prioritise men with good genetic attributes. Thus, according to SPT, women should identify as attractive male traits that, in the EEA, were markers of both genetic and provider qualities and women should tend to trade-off one set of qualities for another given different environmental circumstances (Gangestad and Simpson 2000).

2.3.4 Evolutionary critiques of evolutionary psychology

Evolutionary psychology has been strongly criticized both for its theoretical assumptions and its empirical methods. However, the contributions of evolutionary psychology in the study of human mating are undeniable in terms of empirical evidence and the main critiques are not addressed to all evolutionary psychologists (Laland and Brown 2011).

According to Laland and Brown (2011), charges of genetic determinism and reductionism are unfounded because they rely on the widespread misunderstanding of evolutionary theories. These critiques were directed towards sociobiology, with which evolutionary psychology is often associated. In 1974, Wilson published *Sociobiology: A New Synthesis*, a book on the biological reasons for social behaviour. Many academics accused Wilson of genetic determinism but, beyond plausible concerns on the political implications of linking biological motivations and social behaviour, the debate turned sterile and strongly ideological(Segerstråle 2006).

In this regard, one merit of evolutionary psychology is having positioned itself in contrast with what early evolutionary psychologists defined as the Standard Social Science Model, which was grounded on the blank state idea of the mind (Tooby and Cosmides 1992). Most social scientists, in particular sociologists and cultural anthropologists, hold an anti-naturalist view of human behaviour based on a dichotomic conceptualisation of nature and nurture. In this line, the primacy of culture is based on the denial of any relevant link between the biological and cultural roots of human behaviour. Thus, the social constructivism perspective still maintains and perpetuates a strong epistemological and theoretical fragmentation that fights against a common holistic view of human behaviour (Barkow 2006; Marshall 2018; Pisati 2008; van den Berghe 1990).

However, the idea of a strong specialised mind is also flawed. Brown and Richerson (2014) stress that the nature-nurture debate (or nativist-empiricist

debate) is yet to be considered fundamentally wrong, given the interrelated roles of genes with individual and social learning in human development (Spencer et al. 2009).

Indeed, the idea of the domain-specific mind theorised by evolutionary psychology is one of the core aspects of the discipline that has been criticised. Beyond the lack of evidence of these specific modules, it has been argued that it is unlikely that natural selection has designed such a costly cognitive system to optimise fitness (Lloyd and Feldman 2002; Smith et al. 2001). In this regard, the recent progress in developmental psychology and neuroscience has confirmed a great plasticity of the human brain in which experience regulates different processes such as genes expression and neural activity (Bolhuis et al. 2011; Li 2003).

Furthermore, the concept of EEA presents several limitations based primarily on its definition. There is minimal evidence regarding the environmental circumstances and lifestyle of Homo Sapiens during the Pleistocene epoch. Thus, there is much speculation and story-telling involved in identifying any particular psychological trait as an adaptation in the EEA. According to Laland and Brown (2011, 177), "a damaging EEA-as-Pleistocene-African-savannah stereotype pervades the evolutionary psychology literature". Even if little is known about the social life of our ancestors, there is evidence of a human presence in very different environments, outside of the savannah, such as next to rivers or oceans, in the Arctic and in the desert (Foley 1995). Moreover, behaviours, such as learning, may have evolved already in the ancestors of invertebrates; or hierarchical organisation and coordinated hunting may have roots in our pre-hominid ancestors (Dixson 2009; Laland and Brown 2011).

Also, the assumption that our species has not faced selective pressures since the Pleistocene is misleading (Laland and Brown 2011; Smith et al. 2001). To understand this point, Laland and Brown (2011) stress that selection pressures may still be operational since individuals with certain characteristics have a higher reproductive success compared to those who do not have them. And this also varies with environmental conditions. Thus, the genetic variation of physical and behavioural traits still differentiates individuals in terms of reproductive fitness (Bolhuis et al. 2011).

Moreover, it has been argued that the type of adaptionism assumed by many evolutionary psychologists overlooks the role of different processes other than natural selection. For example, humans are a "potent constructor of their niche" rather than merely the subject of environmental pressures (Laland

and Brown 2011, 181). 2011, 181). Theory of niche construction stresses that organisms modify the environment and that humans have been particularly flexible in adapting to different contexts (Laland and O'Brien 2011).

Overall, it seems that evolutionary psychology does not appropriately consider evolutionary biology and the complex endeavour of defining a trait as adaptive. In respect of human mating preferences, a trait is adaptive only when there is evidence of its variation within the population, of its genetic heritability and its association with reproductive success. Finally, it should also be proven that this specific trait is shaped by sexual selection (Laland and Brown 2011).

Pigliucci (2013) suggests that the main problem of evolutionary psychology stems from the fact that its claims are not testable. Even if grounded in evolutionary theory, the claims of evolutionary psychology are only possible interpretations of how our ancestors lived and the type of problems they had to face, as well as the reasons for these manifestations in modern societies (Bolhuis et al. 2011; Borgerhoff Mulder 2004; Freese 2008).

Indeed, several scholars have stressed the tendency of a segment of evolutionary psychology to report differences in mating preferences that are justified by "just-so" evolutionary stories, which are very appealing to the general public but less relevant in scientific terms (Bolhuis et al. 2011; Brown and Richerson 2014; Laland and Brown 2011; Smith et al. 2001).

Scholars advocate that different interpretations of sex differences in mating preferences are still often possible. For example, the female-perspective has reconsidered the role of women, stressing that both Trivers' theory and SST have been focused mainly on male competition for "the conquest" of females and on female dependence on male resources (Gowaty 2012; Hrdy 1997; Smuts 1995).

One of the significant issues raised by the female perspective is associated with the evidence of the ability of women to provide for their offspring alone or thanks to the help of relatives. Moreover, the female perspective proposes that, in spite of the benefits that women gain in finding men who have extensive resources, depending on a male may also be very costly for a female. For example, paternity uncertainty has led to male behaviours such as mate guarding, which limit female freedom. Therefore, women face both benefits in finding a man with resources and costs in terms of sexual freedom.

However, Hrdy (2006b) proposes that females derive many benefits from finding several mates and engaging in sexual intercourse for purposes that go

beyond reproduction. In line with this, in humans and other primates, females can have sex during the entire ovulatory cycle and engage in extramarital affairs almost in the same way as men. Therefore, men have evolved to control women's sexual freedom and promiscuity and have forced women to be restrained to assure their paternity (Smuts 1995). The critical point of this is that women did not evolve to be biologically coy but instead, like men, they gain reproductive advantages from being promiscuous (Hrdy 2006a).

Despite the fact that evolutionary psychologists have acknowledged and focused on within sex variability in mating preferences, some scholars have argued that they still overlook the role of cultural norms associated with gender roles (Eagly and Wood 1999). In this regard, sociology lacks a definite theory on how gender roles impact on mating preferences and, also, has not empirically tested this association. Instead, social psychology relies mostly on social roles theory (Eagly and Wood 1999). This theory proposes that the division of labour within the household leads to differences between men's and women's behaviour and preferences. Accordingly, in the contemporary context, in which women contribute to household income and often achieve higher educational levels as compared to the past and to men, men's preferences for women's socioeconomic resources should also vary (Eagly and Wood 1999). In keeping with this, sociological research on mating preferences interprets differences between men and women as a product of a culture that constrains women in their traditional role (Schmitz 2016; Skopek, Schulz, et al. 2011).

In summary, what does it mean to look at mating preferences with an evolutionary eye? It means keeping in mind that discussions about adaptation can be extremely difficult and that generalisations about the universality of human behaviour are a delicate issue. Meanwhile, we can broaden our outlook by examining the extensive evidence reported by evolutionary disciplines and, in so doing, contribute to an integrated knowledge of human mating behaviour.

2.4 What can we learn from evolutionary evidence on human mating preferences

The empirical evidence reported herein comes from different evolutionary disciplines, and the overall logic of this section is to follow what Laland and Brown (2011) advise – that is, to evaluate empirical evidence within an evolutionary framework with the right balance and caution when drawing

conclusions. In framing the hypotheses, evidence on hereditability, reproductive success and the role of sexual selection is reported and discussed. It is well worth notice that the association between these factors is far from definite and clear.

Sexual dimorphism in humans is less evident than in other species, such as gorillas for example. Yet, men and women are physically more different than how it might appear. Across the world, men are, on average, taller and heavier than women, despite variation between populations. Moreover, men and women differ in body composition. Men have a greater muscle mass than women and, women have a larger reserve of body fat compared to men (Put, 2010). According to Dixson (2009), these differences define sex roles in reproduction. Indeed, stature and musculature are associated with the ability to protect and gather resources; whereas, body fat is essential for the energetic demands of pregnancy and lactation. The selective force that has framed these differences is probably sexual selection. Thus, secondary sexual traits may stem from intra-sexual competition or inter-sexual competition. In other words, men and women have competed with same-sex individuals to "conquer" a partner and have also attracted and chosen potential partners. Individuals with better characteristics for competition and attraction should have been more successful in mating and, thus, in reproduction.

Focusing on bodies, researchers try to understand if secondary sexual traits have been selected by intra-sexual competition or opposite-sex choice (or if they have nothing to do with sexual selection). Physical male characteristics are more likely to be a product of male competition, rather than directly shaped by female choice (Puts 2010). Indeed, as reported by Dixson (2009), male activities, such as hunting and intra-sexual competition, may have already led to the development of masculine traits before the appearance of Homo Sapiens. Thus, scholars reasonably hypothesise that males already gave protection and resources to females during the evolution of the genus Homo.

As is the case for many non-human primate species, human males are very competitive and aggressive. Evidence from "state of nature" contexts reports high levels of male homicide, conflicts and warfare (Gat 2015). Thus, it is likely that larger and more muscular men have better abilities for intra-sexual competition. Moreover, physically competitive men could also have a higher probability of gathering resources and achieving social status. As a result, physically competitive men should be attractive to women. In this regard, it is highly reasonable to think that in the past mating was primarily a result of

male competition and male choice (Hill et al. 2013). That is, the man who won the competition decided with whom to mate. Thus, male sexual coercion should also have been very common (Smuts 1995). These factors lead to the hypothesis that the straightforward male-competition/female choice model is, somehow, misleading, and that a mutual choice model may be more appropriate (Stewart-Williams and Thomas 2013).

Although high levels of male physical competition are not any longer at play, it is interesting to look at the contemporary relationship between men's stature, social status and reproductive success. Indeed, as reported by Stulp and Barrett (2016a), there is strong evidence regarding the association between height, resources acquisition and status for men. Taller people are more educated (Cavelaars et al. 2000; Sarti 2012) and more easily reach positions of leadership, higher incomes and successful careers than shorter people (Judge and Cable 2004). Moreover, taller men have on average a higher reproductive success (Nettle 2002; Pawlowski 2000), but this evidence does not hold true in all countries. For instance, in the United States, men of average height have the highest reproductive success (Stulp and Barrett 2016a).

Also, there is solid evidence that height is under the influence of genetics. Indeed, height heritability is generally around 0.80, even if it is lower in developing countries (for example 0.62 in Nigeria), which demonstrates that environmental factors do also play a role and not just genetics. However, among individuals who live within the same environmental conditions, differences in height are primarily due to genetic differences (for a review on this topic see: Stulp and Barrett 2016a).

Stulp and Barrett (2016a) stress that it is not yet possible to draw conclusions on the adaptive function of height. However, it is at least presumable that men's height is under the pressure of female preferences given its association with resource acquisition and status. Based on this evidence, it is highly likely that women will prefer tall men, while it is not clear who men would prefer between a short and a tall woman. The association between height and status also applies to women. However, evidence has shown that, in Western countries, taller women have a lower reproductive success compared to shorter women, despite the higher risk of child mortality in shorter women. Indeed, it is likely that this preference may vary with contextual factors, such as high child mortality rates (Stulp et al. 2012).

Masculine men are typically more muscular and physically stronger (Dixson 2009). Also, some evidence reports they have better long-term health (Thornhill

and Gangestad 2006) and higher reproductive success (Hill et al. 2013). Men with a beard (a typical male sexual secondary trait) are considered to be more masculine and aggressive, older, and in possession of a higher social status compared to shaved men (Dixson and Vasey 2012). However, evidence reports that beards are not a consistent sign of attractiveness (Dixson et al. 2017). Indeed, the extent to which women prefer masculinity is not clear, especially for male faces (Rhodes 2006; Scott et al. 2010). Overly masculine men are generally less attractive for women and rated, by them, as being too dominant and more prone to infidelity. Moreover, less masculine men may indicate a greater willingness for parental investment and long-term relationships (Perrett et al. 1998).

While the association between masculinity and attractiveness is not clear, extensive evidence shows that femininity has been reported to be attractive (Rhodes 2006). Facial sexual dimorphism is shaped by hormones during puberty. Indeed, male faces are shaped by testosterone that accentuates the jaw, cheekbones and brow ridges and stimulates facial hair; whereas oestrogen in females faces reduces them and stimulates the development of fuller lips. Facial femininity should be associated with youth and high fecundity (Feinberg et al. 2005; Johnston and Franklin 1993; Perrett et al. 1998).

However, the relationship between facial sexual dimorphism and health is also not clear. Kalick et al. (1998) report no evidence between facial beauty in male and female adolescent and health. Yet, Rhodes et al. (2003) show that facial masculinity is related to male health, while female health is related to facial averageness (Rhodes et al. 2001). Facial sexual dimorphism, averageness and symmetry are the three biological dimensions associated with facial beauty (Rhodes 2006). Extensive debate on the association between facial attractiveness and fluctuating asymmetry is still on-going. Fluctuating asymmetry, defined as the degree of deviation from bilateral symmetry, has been linked to development instability and health. Thus, face (and body) fluctuating asymmetry should be a marker of genetic quality. In line with this, evidence reports that people with symmetric faces are considered to be more attractive and healthier (Grammar and Thornhill 1994; Gangestad, 1993; Gangestad and Thornhill 1997; Thornhill and Gangestad 1996). However, debates about the consistency of measures and results challenge these associations (Laland and Brown 2011).

Women's aggressivity is also spread across cultures and mostly stems from competition for mates (Campell 2013). Moreover, female aggression increases with a female-biased sex ratio and with strong socioeconomic inequality between

men. Yet, when considering female bodies, it seems likely that women's bodies and secondary sexual traits have been shaped by their ability to attract males rather than through female physical competition (Puts 2010). Women's fat reserves may be signs of good resources for pregnancy. Indeed, women's body-fat distribution on their hips, buttocks and breasts may actually be markers of youth and fertility (Dixson 2009). Jasieńska et al. (2004) report that women with large breasts and a low waist-to-hip ratio have higher levels of oestrogen and, thus, higher fecundity. Coherently, cross-cultural evidence reports an association between a low waist-to-hip ratio and attractiveness (Singh et al. 2010). In this regard, Currie and Little (2009) have found that ratings on facial images are the best predictor of ratings of the overall attractiveness of bodies for both men and women.

Female attractiveness traits are generally associated also with youth. Indeed, men tend to prefer attractive and youthful women. More specifically, men should prioritise women as mating partners at around 20 years old, when the average pick of fertility occurs. Thus, the preference for an age difference between one's own age and a female partner should increase with age (Buunk et al. 2001; Pawlowski 2000).

Unfortunately, few studies focus on the association between physical attractiveness and reproductive success. Pawlowski et al. (2008) reported no association between facial beauty and number of children in Poland, but this study was based on a tiny sample (N=47). Evidence from the United States (Jokela 2009) has shown that women with attractive faces have higher reproductive success, but the relationship is not linear. Thus, very attractive women have on average fewer children than attractive women. The evidence for men is different: a threshold effect shows that men with unattractive faces have a lower probability of having children compared to all other men. However, the association between attractiveness, health and reproductive success is still weak, overall. Also, little is known about the genetic benefits of being attractive (Rhodes 2006). Indeed, it is very complicated to disentangle different potential cues of beauty, health and reproductive success.

However, attractive people are more sexually active and have a higher success in mating (Rhodes et al. 2005; Weeden et al. 2007). Moreover, as for tall people, beautiful people have socioeconomic advantages in society. They have more success in the labour market and achieve better occupations (Hamermesh and Biddle 1994; Sala et al. 2013; Scholz and Sicinski 2015). Also, in the context of the internet mating market, Hitsch et al. (2006) have shown

that participants facial beauty is correlated to their income.

Through the observation of sexual dimorphism, variance of reproductive success and parental investment, evolutionary biologists study mating systems. Human mating systems are flexible but present some remarkable patterns. Marriage is, indeed, universal, and romantic love is a feeling shared across cultures (Pillsworth and Haselton 2006). 80% of human cultures permit polygamy but in most cases monogamy is the main pattern (Low 2007). The spread of monogamy in our species has been linked with the need for active cooperation between men and women and a loosening of intra-sexual competition and inter-sexual competition (Dillard and Westneat 2016; Henrich et al. 2012).

Overall, it is reasonable to suggest that women across time and cultures prefer men who can help with raising children, and providing for them. Indeed, human children depend on their parents' care for an unusually long time compared to other species, and both women and men invest time and resources in their offspring. It is likely that a strong propensity for pair bonding evolved to maximise the survival of dependent children. Fathers' investment in children is, indeed, particularly crucial for their growth and it may lead to a decrease in the male variance of reproductive success (Brown et al. 2009; Krasnec et al. 2012; Stewart-Williams and Thomas 2013).

As reported, women tend to be more attracted by status and socioeconomic resources in a potential partner as compared to men. In line with this, in traditional and pre-industrialised societies, control over resources is directly associated with reproductive success, in particular for men and in agricultural societies (Kaplan 1996; Lawson and Mace 2011). Moreover, evidence from hunter-gatherer societies reports that good hunters form better alliances and are facilitated in resources acquisition. Consequently, they find more mates. Among Ache, better hunters have more offspring who survive (Hill and Hurtado 1996). Marlowe (2004) reports that Hazda women prefer hunting abilities and intelligence in men, who in turn show a preference for markers of fertility in women. Among the Kipsing in Kenya men who own a larger plot of land are preferred by women and their families (Mulder 1987).

Despite fertility decline, some evidence has shown that the association between socioeconomic resources and number of children holds in the contemporary Western societies too: richer and powerful men have more children compared to other men and women (Fieder and Huber 2007; Fieder et al. 2005; Hopcroft 2006; Nettle and Pollet 2008; Weeden et al. 2006). Oppenheimer (1994) findings on marriage timing are consistent with this. The scholar has

shown that the best predictor of age at marriage is a man's income stability. Also, studies demonstrate that a shortage of economically stable men leads to an increase in the socioeconomic and racial differences in the odds of marriage (De Hauw et al. 2017).

However, as previously reported, contemporary societies are characterised by strong assortative mating patterns on both biological and socioeconomic traits (Carmalt et al. 2008; Schwartz 2013). Indeed, assortative mating may show a distinctive pro-fertile effect given evolutionary pressure. With respect to cultural traits, homogamy may be pushed by the positive impact of expanding the "kinship system" that evolved for cooperation between individuals to survive and enhance their offspring's breeding within the cultural group, such as religious communities (Fieder and Huber 2018). In this line, positive assortment may lead to genetic relatedness among relatives promoting inclusive fitness and the spread of similar traits, augmenting the number of shared genes (Thiessen and Gregg 1980). This may also lead to "cultural niches" defined by cultural reproductive boundaries for group insiders (Laland and O'Brien 2011).

Yet, evolutionary forces act against excessive genetic homogamy between mates, such as close relatives, given the detrimental outcomes in the increase in the frequency of homozygous alleles (Bittles et al. 2002; Charlesworth and Willis 2009). Accordingly, almost every culture promotes incest taboo with strict social norms (Boyd and Silk 2006). As reported by Thiessen and Gregg (1980), as far as homogamy avoids excessive genetic inbreeding, individuals may tend towards the maximisation of genetic homogamy. In line with this, some evidence has shown that homougamous couple last longer and reproduce almost as hypergamic couples (Bereczkei and Csanaky 1996).

Beyond potential adaptive drivers of assortative mating, mating is a mutual choice between two individuals and it has been argued that it is driven by simple and frugal heuristics that are the result of a trade-off between one's own characteristics and a potential partners' availability (Todd and Miller 1999). Thus, the competition within each sex and between sexes may result in assortative mating choices. For example, evidence shows that assortative mating on partners' height is the product of a trade-off between men's and women's preferences, since women prefer a greater difference between their height and a partner's height compared to men (Stulp et al. 2013).

2.5   Conclusion

In this chapter, I have presented two perspectives on mating behaviour. On the one hand, the social sciences perspective focuses on general drivers of mating preferences. Indeed, competition and matching hypotheses on mating preferences do not allow us to understand differences between men's and women's preferences. Also, even if different types of complementary resource exchanges between men and women have been considered, scholars are not able to explain why they take place. The main reason for this is an underestimation of evolutionary factors within human sexuality and mating behaviour. This brings us to cultural explanations for gender differences. However, these cultural explanations need to be tested before they can be considered to be sound.

On the other hand, evolutionary psychology has focused on mating preferences theorisation but has been strongly criticised for its assumptions and speculations about differences between men and women. However, the extensive empirical literature and the heated debates among evolutionary disciplines are a fertile ground of information about human mating behaviour. Both social and evolutionary perspectives on mating behaviour recognise forms of maximisation. Thus, individuals are seen as optimising different abilities such as mating, parenting and subsistence. As a consequence, men and women have to compete and cooperate and, in so doing, they make trade-offs in order to form an equal couple.

In contemporary societies, in which women achieve higher education and personal fulfilment, the rules of social exchanges between men and women in forming a couple may change, and with them the definition of their equity.

Chapter 3

The research design

An on-line factorial survey experiment

3.1 How mating preferences are measured

3.1.1 A methodological literature review

The social sciences, and in particular sociology, lack studies on mating preferences and have primarily focused on the research on mating choices. Recently, a new field of study suitable for testing mating preferences is the internet mating market. Unrestricted by social and geographical constraints of local markets, individuals may be able to exercise greater freedom in their choices and display "purer" mating preferences (Blossfeld and Bierschock 2011; Hitsch et al. 2010; Rosenfeld and Thomas 2012). Thus, the empirical literature from social sciences has slightly grown (Feliciano et al. 2008; Hitsch et al. 2010; Lin and Lundquist 2013; Lundquist and Lin 2015; Potarca and Mills 2015; Skopek, Schmitz, et al. 2011; Skopek, Schulz, et al. 2011).

However, psychology is for sure the discipline that has covered the topic of mating preferences to the broadest extent. An overall weakness of the empirical literature on mating preferences stems from the use of poor analytical tools. Indeed, evidence on mating preferences relies mostly on survey methods that imply self-reported evaluations on single attributes of a potential partner. Thus, respondents have been asked to evaluate the desirability of a set of potential partner's traits on a Likert scale (Buss 1989; Eastwick et al. 2014; Fales et al. 2016; Furnham 2009; Shackelford et al. 2005).

As stressed by several scholars (Chappetta and Barth 2016; Lee et al.

2014; Li et al. 2002), this method overlooks the multidimensional nature of mating preferences and does not take into account the potential trade-offs between different partner characteristics. Moreover, this implies the risk of an overestimation of each trait, rather than a balanced measure of its impact on overall partner attractiveness. Also, such a direct abstract evaluation may lead to social desirability bias.

Another technique that has been used to study the mate selection process investigates what people say about themselves when publishing a personal advertisement in search of a partner. Both evolutionary psychology (Badahdah and Tiemann 2005; Greenlees and McGrew 1994; Gustavsson et al. 2008) and social sciences (Davis 1990; Deaux and Hanna 1984; Goode 1996) have adopted this method. Evidence from these studies' data has shown that men are generally more willing to offer financial stability and demand attractiveness, and women privilege financial stability while offering attractiveness. Thus, findings indicate that women and men stress the importance of attributes that are the most preferred by the opposite sex. However, this method does not directly measure mating preferences.

Studies in which respondents evaluated multi-dimensional profiles, provide more accurate and realistic evidence. Internet dating service websites are, perhaps, the best real mating market to be studied, but also speed-dating events and factorial designs provide data on the relative impact of potential partners' traits on overall attractiveness. In speed-dating events, people meet several potential partners, each for a few minutes. Once the event ends, people state who they would like to meet again. When two people match, they can meet again (Asendorpf et al. 2011; Eastwick and Finkel 2008; Fisman et al. 2006; Fisman et al. 2008; Kurzban and Weeden 2005; Lenton et al. 2009; Luo et al. 2009; Todd et al. 2007). Experiments using speed-dating events have the advantage of being performed in person. Thus, they are extremely realistic. However, very quick meetings between potential partners may not entail enough time to get to know personal information. Thus, some traits may remain invisible.

Factorial experimental designs have been a powerful tool in investigating mating preferences. Several labels are used to define the same type of experiments: policy capturing (Wiederman and Allgeier 1992), surface response (Lee et al. 2014) and conjoint analysis (Mogilski et al. 2014). In sociology, this kind of experiment is mostly known as factorial survey design or vignette study. However, beyond labels, the ratio and the analytical models of these

experiments is the same. By manipulating a set of potential partners attributes, researchers set up fictive descriptions of individuals and ask respondents to evaluate them by choosing the most preferred and/or rating each one. In so doing, it is possible to estimate the relative impact of each trait on the respondents' evaluation. Thus, the main strength of these analytical tools is that researchers take into account the multi-dimensional nature of preferences and, thus, the process of trade-offs put in place when evaluating a potential partner. In other words, the measures of preferences are therefore more realistic and overcome the common limits of survey methods, such as the risk of social desirability bias or preferences overestimation. Indeed, this is proven by studies that conduct both a factorial experiment and a self-reported survey. By comparing the results, differences between men and women and the importance they place on each trait are greater in self-reported surveys (Ha et al. 2010). In fact, both speed-dating event experiments and factorial experimental designs have provided some challenges to the common results on differences between men's and women's mating preferences (Kurzban and Weeden 2005; Todd et al. 2007).

However, factorial experiments on mating preferences have been mostly focused on mating preferences variations with contextual and respondents' characteristics, and on preferences for psychological and biological attributes in a potential partner. For example, Scheib (2001) focused on attitude traits and Barclay and Mudd Hall (2010) investigated altruism, while Mogilski et al. (2014) concentrated on sexual fidelity.

Overall, factorial experiments on mating preferences focus on broad measures of socioeconomic status, such as levels – or more straightforward presence or absence – of "financial resources" Wiederman and Dubois (1998), "economic stability" (Mogilski et al. 2014), "status/resources" (Fletcher et al. 2004) and "educational level" (Lee et al. 2014). Other experiments include levels of income (Kenrick et al. 2001; Wang et al. 2018). In factorial experiments, cues of beauty have been demonstrated by adding face pictures based on different beauty levels into the experimental profiles (Chappetta and Barth 2016; Greitemeyer 2007; Ha et al. 2010; Scheib 2001) or face pictures based on femininity and masculinity (Lee et al. 2014). In one recent experiment, scholars have used body images with different shapes and adiposity distribution (Wang et al. 2018).

As far as I know, just in one case, two measures of socioeconomic status have been included (Greitemeyer 2007). In this case, as previously reported, the scholar investigated the trade-off between preferences for facial beauty,

income and educational level and find that when all are included, the first is
the only trait that leads to a difference between men's and women's evaluations
of profiles. Other experiments have looked explicitly for trade-offs between
beauty and status, but always either including only a few traits (Ha et al.
2010; Wang et al. 2018), oversimplifying physical beauty and social status, or
disregarding the potential role of preferences for cultural traits. Although also
a simple experiment can be informative, the potential of factorial experiments
is not thoroughly exploited. Perhaps, the absence of a contribution from
the social sciences in the study of mating preferences may have led to a lack
of sophisticated use of experimental designs and a focus on socioeconomic
and cultural attributes, and their interactions with biological ones, in mating
preferences.

3.1.2   A contribute to the experimental literature

Evidence on mating preference comes from studies mainly focused on
investigating traits preferences as independent from each other. More recently,
experimental designs have been tools for a multidimensional investigation of
mating preferences (Greitemeyer 2007; Ha et al. 2010; Kenrick et al. 2001; Lee
et al. 2014; Mogilski et al. 2014). By manipulating traits preferences in the
descriptions of potential partners and asking respondents to evaluate them,
researchers have estimated the relative impact of each trait simultaneously,
taking into account the trade-off inherent to the evaluation process.

As reported, few factorial experimental designs have focused on the relative
impacts of only biological and socioeconomic characteristics on mating attrac-
tiveness (Greitemeyer 2007; Ha et al. 2010; Kenrick et al. 2001; Wang et al.
2018). Although they have gained interesting results, mostly on the variations
of mating preference with contextual and respondents' characteristics, they
have typically been constructed with only a few potential partners' factors used
as proxies for physical attractiveness and socioeconomic status, particularly
overlooking the different potential sources of socioeconomic status. Despite
having confirmed previous studies on sex differences, in which men privilege
beauty and women privilege socioeconomic resources, factorial experimental
designs on mating preferences have oversimplified cues of social status and have
disregarded the potential role of preferences for cultural traits.

Thus, with this study, I set up an experimental design to investigate how
different cues of attractiveness contribute to defining what is desirable in a

potential partner for both men and women. This is relevant not just for the evolutionary literature, both also for the sociology because of the complete lack of experimental studies on mating preferences in this field. The experiment that I propose is a full factorial design constructed to investigate the impact of age, height, facial beauty, educational level, wealth, career prospects and religious values on the evaluation of potential partners' mating desirability. As carefully explained in the following, I construct a fictive population of potential partners' profiles and ask a sample of respondents to rate them. To enhance the realism of the experiment, these profiles are presented as the users of on-line dating services, with summary information and a picture of the face to signal the level of face beauty.

Both social and evolutionary perspectives recognise the potential role of personal socioeconomic resources and cultural norms in shaping mating behaviour. Specifically, from a socio-cultural perspective, it has been argued that, as men and women become equal, their preferences should overlap (Bavel et al. 2018; Blossfeld 2009; Eagly and Wood 1999; Kalmijn 1998; Schwartz 2013). Thus, with this study, I aim to test this convergence between male and female preferences. To this end, I focus on the mating preferences of a respondent population composed of high status and liberal individuals. Masters' students enrolled in the University of Milano–Bicocca (Italy) have been chosen. The choice of this respondent population follows the literature that stresses the importance of a homogeneous respondent sample to estimate the causal effects of individual judgments and preferences (Auspurg and Hinz 2014; Rossi and Anderson 1982). Indeed, rather than making generalisations on the population, my overall aim is to investigate, in the contemporary context of liberal and educated young men and women, the underlying causal relationships between a set of characteristics and potential partners' mating desirability. Moreover, the literature lacks evidence on mating preferences in Europe, specifically Southern Europe. As far as I know, evidence of mating preferences in Italy is extremely poor and outdated (Buss 1989; Eastwick et al. 2006).

3.2   Research hypotheses

3.2.1   Hypotheses on the direction and strength of mating preferences

From a sociological perspective, mating preferences stem from two individual aims: maximising one's own social status and sharing culture and values within the process of social exchange in forming a couple. Thus, facing structural mating market constraints and opportunities, individuals compete to "conquer" a partner who does not worsen their socioeconomic position and tends to match with them on cultural traits. In this line, I expect that respondents prefer partners with good socioeconomic indicators and a similar cultural background to themselves. As a consequence, the evaluation of a potential partner's mating desirability should increase with these characteristics. Specifically, the sociological hypotheses are defined as follows.

- **H1:** Height and facial beauty should have a positive causal effect on mating desirability given that tall and beautiful individuals have a higher probability of reaching a high status; also, wealth and career prospects should have a positive effect on the evaluation of mating desirability.

- **H2:** Similar age, educational level and religious values should have a positive effect on the evaluation of mating desirability because they maximise the sharing of cultural values and lifestyle.

However, from this theoretical framework, it is not possible to formulate specific hypotheses on men's and women's differences in mating preferences. We may assume that these differences should not appear for two reasons. First, in a contemporary European city, such as Milan, Master's degree students may be very gender-equal. Also, they may not evaluate potential partners' traits on the basis of reproduction and a long-term relationship. Second, by investigating mating preferences with an elaborate factorial experiment, I minimise social desirability risk and estimate the balanced effects of traits on potential partners mating desirability. Thus, by forcing a trade-off between different biological, socioeconomic and cultural traits, differences between male and female mating preferences among a homogeneous sample of students may disappear.

However, a consideration of the evolutionary literature on mating behaviour and preferences has lead to potential hypotheses that are well worth testing.

From an evolutionary perspective, people invest not just in their subsistence (e.g. social status attainment) but also in reproducing and parenting. Thus, given the different biological costs of reproduction, male and female behaviours may still reflect, to some extent, their different reproductive roles shaped during evolutionary history. Accordingly, women face higher biological costs in reproduction and parenting, while struggling with the achievement of personal fulfilment in contemporary Western society. In this regard also, the costs of achieving a high social status are greater for women as compared to men. As a consequence, couple formation may still maximise the achievement of female personal status. Instead, men have lower biological costs in reproduction but high costs involved in "conquering" a mate with a high value in terms of social status. In this regard, I advocate that social norms of contemporary democratic societies have constrained male sexual coercion of women in the mating market. Thus, female bargaining power in forming a couple should be higher compared to men and especially among the highly educated. However, biological factors of attractiveness may still come into play and potential fertility cues such as age and beauty may still impact on the evaluation of female mating desirability.

Following these considerations, hypotheses about different causal impacts on the evaluation of male and female desirability are formulated as follows.

- **H3:** Due to their higher costs in reproduction, parenting and achieving a high social status, women should be more selective in evaluating men compared to men in assessing women.

- **H4:** Height may have a stronger effect on the evaluation of male mating desirability because taller men achieve higher social status.

- **H5:** Facial beauty may have a stronger effect on the evaluation of female mating desirability because male physical attractiveness is more variable and less clearly associated with reproductive success compared to female physical attractiveness.

- **H6:** Wealth and career prospects may have a stronger effect on the evaluation of male mating desirability because they may maximise a woman's social status achievement and minimise her reproductive costs.

To be clear, these hypotheses do not test evolutionary adaptations. Further data would be needed to achieve such a goal and that is not the aim of this study. Instead, my aim is simpler: to rely on the existing literature and try to

integrate an evolutionary perspective into a sociological experiment about the mechanisms of mating desirability.

To further exploit the potential of a perfectly orthogonal experiment - such as the one that I conducted - I do an exploratory analysis on the conditional causal effect of six of the chosen characteristics by the level of face beauty. In short, the question is: does beauty favour men and women in different ways on the mating market? The aim of this is to investigate if facial beauty may moderate the effect of socioeconomic resources for male and female attractiveness. Thus, I check if the relationship between facial beauty and other traits is additive or interactive.

3.2.2 Hypotheses on variability of mating preferences

This study mainly investigates impacts of cues of attractiveness on mating desirability among students of a European city. Thus, this population is probably homogeneous in terms of status and cultural values. However, sources of variability will not be disregarded. To this end, I investigate the association between two different social status indicators and two measures of cultural background.

For the first source of heterogeneity, I estimate mating preferences considering individual social status measured with the respondents' father's level of education and the respondents' height. For the second, I check for an association between mating preference variability with respondents' religiosity and respondents' agreement with gender egalitarianism. In this regard, I test socio-cultural hypotheses on the role of personal resources and culture as factors that are associated with mating preference differences within each sex and between men and women.

- **H7:** Respondents with high social status (with fathers who have graduated and with an above-average height) should have stronger preferences for beauty and should find potential partners' socioeconomic resources less attractive compared to lower status respondents.

- **H8:** More conservative respondents (more religious and with less gender-equal values) should display stronger gender-stereotypical mating preferences.

3.3   An on-line factorial survey design

3.3.1   A methodological introduction

The factorial survey method (FS) has been developed Rossi and Anderson (1982) as an analytical tool for the investigation of individuals' judgments and preferences on a specific object of study, such as a situation, a service, a product, or a person's profile. Setting up a factorial survey, researchers ask a sample of respondents to evaluate fictive descriptions of the chosen object of study by forcing a trade-off between its dimensions. Usually, the object descriptions are known as vignettes and, coherently, the FS is also known as the vignette approach.[1]

In a nutshell, each respondent is asked to evaluate a set of different vignettes that are fictive descriptions of the study object . These scenarios are defined by the researchers based on the previous literature and their research questions. Thus, each vignette is described by d attributes (e.g. dimensions), each expressed in two or more discrete levels. The specific combination of levels defines one vignette of the object of study, that is its position in the *d-dimensional* space of attributes. The complete set of combinations, namely the Cartesian product of the levels, forms the vignette universe, that is the study population. One or more sets (also called blocks or decks) of vignettes are selected from this population and randomly assigned to respondents to be evaluated through one or more tasks, such as to rate and rank the vignettes or to choose between them. Thus, with this technique, respondents are not tasked with evaluating single characteristics of the object of study, but with forming a judgment on complex and multidimensional descriptions of it. Since the dimensions of the vignettes varies according to the experimental design, and as long as factors

---

[1] However, using the term factorial survey method is advisable given the potential confusion that might result from using the term vignette approach; indeed, there are other research techniques that use vignettes but are completely different from a factorial survey (i.e. the anchoring vignette approach) (Auspurg and Hinz 2014, 14-15). On the contrary, other scenario experiments, such as stated-choice experiments and conjoint valuation methods have been used by economists in marketing research, with the same aims of studying preferences and judgments. Following this tradition in economics, political sciences have also applied conjoint analysis (Hainmueller and Hopkins 2015). Another label used in organisational studies to identify these types of experiments is the policy-capturing method (Aiman-Smith et al. 2002). The substantial difference between all these labels stems only from the disciplinary origins and type of regression model implemented, but the ratio is the same. Thus, they are different labels for the same kind of factorial regression-based experiments (Dülmer 2007; Louviere et al. 2000).

orthogonality is guaranteed, the impact of object dimensions on the evaluation can be simultaneously estimated (Auspurg and Hinz 2014; Rossi and Anderson 1982).

An extensive review of studies that have used FS in sociology is provided by Wallander (2009) and also by Auspurg and Hinz (2014). Early studies using FS have investigated people's definition of household status (Rossi and Anderson 1982). More recently, factorial surveys have been implemented, for example, in studies of the fairness of earnings, with a focus on gender differences (Auspurg, Hinz, and Sauer 2017; Sauer et al. 2009; Schwarz et al. 2018; Steiner et al. 2016); the fairness of the share of housework between partners (Auspurg, Iacovou, et al. 2017) the criteria applied to professionals' judgments, such as social workers (Taylor 2006) and nurses (Ludwick et al. 2004); and the evaluation of deviant behaviour (Tolsma et al. 2012). Methodological guidelines on FS are provided by Aguinis and Bradley (2014), Auspurg and Hinz (2014), Auspurg and Jäckle (2017), Dülmer (2007, 2016), Jasso (2006), Sauer et al. (2011, 2014), Steiner et al. (2016), and Wallander (2009) and statistical models for the analysis are discussed by Hox et al. (1991) and Jasso (2006). Also, Hainmueller et al. (2014) provide a remarkable analysis of the potential of factorial experiments for the estimation of causal effects.

3.3.2 The strengths of factorial surveys

FS has been defined as a quasi-experiment because it combines elements of a traditional survey with the strengths of experimental designs (Wallander 2009). One of the main advantages of this technique is that it leads to better estimations of individual preferences and judgments, which are often not consciously acknowledged by individuals and hidden behind social expectations. Thus, by presenting multidimensional descriptions, the risk of social desirability bias decreases (Wallander 2009). Factorial surveys force respondents to make a trade-off between vignette dimensions; therefore, the estimation of preferences and judgments is more realistic (Auspurg and Hinz 2014; Hainmueller et al. 2014). More specifically, factorial surveys overcome issues of real-world multicollinearity of the dimensions of subjects of studies. Indeed, in studying real-world subjects, researchers often face the obstacle of disentangling the effects of judgments and preferences of different dimensions, because of the strong associations between them. Thus, factorial surveys are a remarkable analytical tool to test hypotheses concerning the independent roles of specific

dimensions of an subject of study (Rossi and Anderson 1982).

Moreover, using FSs allows us to test different causal hypotheses simultaneously and to concentrate on a single mechanism by reducing the complexity of reality (Auspurg and Hinz 2014). Indeed, by estimating just one behavioural outcome, researchers can measure both different impacts within the vignette dimensions and across them, thus comparing the relative weight of each (Hainmueller et al. 2014). Also, FS units of analysis are the vignettes themselves, and therefore, since each respondent evaluates several vignettes, researchers can gather a large number of samples with less effort and resources compared to the traditional survey (Auspurg and Hinz 2014).

For these advantages, the choice of convenience samples of respondents is justified. Indeed, the first aim of a factorial survey is not to make generalisations about behaviour. Instead, it is to test its underlying mechanisms (Auspurg and Hinz 2014). However, recent studies have provided evidence on the methodological and statistical power of factorial experiments by comparing results from convenience samples and general population samples. These have shown that convenience samples are sufficient to achieve the same results, even if, of course, generalisations cannot be made (Auspurg and Hinz 2014; Hainmueller et al. 2014). In any case, the growing use of FS in studies of the general population is of course of great value given the practical drawback of the low external validity of non-representative samples (Auspurg, Iacovou, et al. 2017; Hainmueller and Hopkins 2015; Sauer et al. 2011; Weinberg et al. 2014).

3.3.3 The construction of the vignettes

The definition of the dimensions and levels of the vignettes

The first step in setting up a factorial survey experiment is to define the dimensions under investigation. Following Rossi and Anderson (1982), the subjects are the units of analysis, the dimensions are the qualities that the researcher chooses to describe them, and the levels are the specific values of kind or amount of the dimensions. As previously stated, this is one of the stronger points of factorial surveys: researchers can create an ad hoc study population based on their research questions. However, this is also a very delicate process, and careful consideration of the theoretical literature is necessary to avoid presenting vignettes with unnecessary or inconsistent information (Aguinis and Bradley 2014). Also, vignettes that are too complicated can lead to

TABLE 3.1. Vignette dimensions and levels

Type	Dimension	Levels
Biological	Age Height Face Beauty	Same/about 30 years old 10cm less/Same/10cm more Low/Medium/High
Cultural	Religious beliefs Educational level	Different/Similar/Same High school/Bachelor/Master
Socioeconomic	Wealth Career prospects	600 euro/1.000 euro/1.600 euro Low/Medium/High

inconsistency in estimations by weakening the impacts of the dimensions on the evaluations (Auspurg et al. 2009). In this regard, Sauer et al. (2011) have compared experimental designs with a different number of dimensions and a different number of vignettes per respondent. They have shown that the maximum number of dimensions in vignettes should be 12 and the maximum number of vignettes per respondent should be 30. Otherwise, cognitive overload and fatigue may lead to inconsistency in their evaluations.

In this study, I investigate mating preferences through an evaluation of potential partners' overall attractiveness. Thus, my subject of study is a potential partner defined by a set of dimensions that are relevant in the existing literature of mating preferences as criteria in partner selection. Following the aims and hypotheses of my study, I have selected seven dimensions: three biological, three socioeconomic, and one cultural. Table 3.1 reports the list of the vignette dimensions with their levels.

There are two motivations behind the definitions of the levels. First, they stem from theoretical reasons; second, they maximise the requirements for factorial survey experiments. Thus, I made a trade-off between investigation issues and experimental solutions.

Pictures selection

One of the possible strategies to maximise external validity and enhance the realism of the vignettes is to present visual information in the vignettes (Aguinis and Bradley 2014). Previous research that presented respondents with potential partners' images have reported more accurate estimates (Chappetta and Barth 2016; Greitemeyer 2007; Lee et al. 2014). Moreover, a study by

(Currie and Little 2009) has shown that ratings on facial images are the best predictor of ratings of the overall bodies' attractiveness for both men and women. Therefore, I decided to enhance the realism of the vignettes of potential partners with pictures of faces since they can be considered a good cue for physical attractiveness.

To construct the vignettes of potential partners, I needed to select facial pictures, marked by different levels of beauty, but also that were consistent with the two ranges of age defined by the experimental design. Facial pictures have been retrieved from the database made available by Bainbridge et al. (2013). This database contains more than 10000 facial pictures of different qualities and shapes. Also, facial expressions vary and individuals may recur in more than one of the images. Thus, I proceed as follows:

1. I randomly selected a sample of 100 pictures of male faces and a sample of 100 pictures of female faces with the following requirements: good quality, a frontal image of the face, an evident smile, Caucasian (white) and with an age somewhere around 20-30 years old.

2. Then, I perfected the quality of these sample pictures with a further selection. I tasked two groups of heterosexual men and women (for a total of N=25), who were between 20 and 30 years old, Italian and enrolled at the University of Florence, to evaluate the sample of opposite-sex pictures by expressing which age category would fit better with each face, choosing between "under 22 years old", "22-26 years old", "27-31 years old" and "above 31 years old". Additionally, they were asked if they recognised any of the faces as pictures of famous people. I therefore excluded 25 female pictures and 26 male pictures because they were evaluated as younger than 22 years old, older than 31 years old or famous faces by at least 60% of the raters. Thus, the pictures that were then included for the following step, were 75 of female faces (39 considered around 22-26 years old and 35 evaluated as being around 27-31 years old) and 74 of male faces (38 around 22-26 years old; 36 around 27-31 years old).

3. I set up an online survey on LimeSurvey to have the beauty of get the faces pictured evaluated. I restricted the survey population to Italians born from 1991 to 1997, and who were not students of the University of Milano–Bicocca. This last requirement was applied to avoid involving the population of the final experiment, i.e. students of the University of Milano–Bicocca. I asked respondents the following information: sex,

year of birth, citizenship and, if not Italian, country of origin; the current city of residence and, if a student, the University name; and finally, their preferred sex in a romantic relationship. Based on this information, each respondent was asked to evaluate the faces of the preferred sex. In the cases where a respondent declared they preferred both sexes or neither sex, pictures of both sexes were shown. Each respondent was tasked with rating the beauty of 30 random pictures of faces on a 7 points Likert scale (-3–+3). Among the random sample of 30 pictures, half belonged to the first age range (22-26) and the other half to the second age range (27-31). The survey was spread through social networks and was open from the 20th to the 26th of November 2017. At the end of the data collection, questionnaires completed by Italian and heterosexual respondents were considered. Thus, a total of 132 men (mean age = 24; 84 college students) and 198 women (mean age = 24; 138 college students) were included in the final analysis. Female pictures received, on average, 50 evaluations, while male pictures received, on average, 80 evaluations. The average inter-respondents correlation was .85 for male raters and .87 for female raters. Also, Cronbach alpha is for both groups around .99. In line with several studies, attractiveness ratings are strongly correlated among independent respondents (Biddle and Hamermesh 1998; Hitsch et al. 2006; Langlois et al. 2000; Lee et al. 2014).

4. Then, I estimated the mean and the standard deviation of ratings of each picture and subsequently estimated the distributions of the average male and female scores. Figure 2.1 shows the curves of distributions for female and male facial beauty. Female attractiveness has a higher mean and the curve is symmetrical. Male attractiveness presents, instead, an asymmetrical curve. These results are in line with previous findings. For instance, evidence from the OkCupid dating service website shows similar attractiveness curves. Women consider most men to be below-average in attractiveness, and just a few are considered to be very handsome. In this regard, Hitsch et al. (2006) also report the incredible success of a few men in the context of on-line dating and define it as the "superstar effect". Meanwhile, female attractiveness appears to be more distributed across women.

5. Next, I standardised the average beauty ratings among female and male faces and within each age range. For each distribution, I selected the

(a) Female facial beauty   (b) Male facial beauty
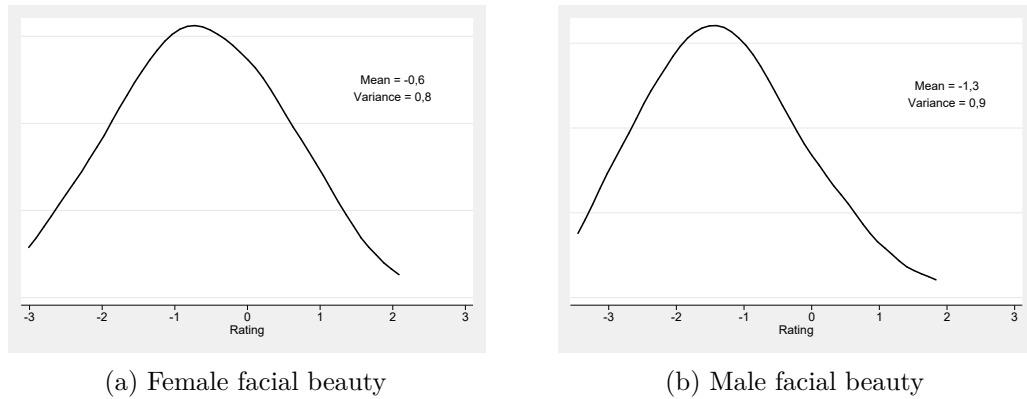
Figure 3.1. Frequency distribution of facial beauty ratings assigned by respondents to female and male face pictures

first five pictures and the last five pictures of the distribution and five pictures around the median. As a result, I finally picked fifteen pictures for each age group and sex. Finally, within each age group of the study population and within each level of facial beauty, I randomly assigned the five pictures of each category without replacement within each block. The aim was to present respondents a block of six vignettes with different faces even if the faces were at the same beauty level.

3.3.4   The experimental design

The whole universe of fictive vignettes is equal to the Cartesian product of dimensions levels (Rossi and Anderson 1982). Thus, considering the number of dimensions chosen for this experiment, and their levels, the total vignette universe is equal to $2x3^6 = 1458$ vignettes for each sex. Thus, two identical populations have been created that differ only by the sex of the vignettes, as expressed by the pictures of faces.

A factorial survey vignette universe has two characteristics. First, dimensions are orthogonal so that correlations between their levels are zero. Thus, each dimension level will appear with all the other dimension levels with the same frequency. Second, the distribution of the levels among each dimension is rectangular. As a result, each level within each dimension will appear with the same frequency in the vignette population (Rossi and Anderson 1982).

Usually, given the potential numerosity of the vignette universe, researches opt for a fractional factorial survey design. This implies deciding how to

select the fraction (i.e. sample) of vignettes to be evaluated in order to maintain the two characteristics of the vignette universe, necessary for a correct estimation of the model. A vignette sample is, thus, unbiased when it tends asymptotically toward orthogonality among dimensions and a rectangular frequency distribution of levels within each dimension (Rossi and Anderson 1982). Drawing random samples from the vignette population is typically the best practice and, of course, as sample size increases the two requirements are more likely to be reached (Rossi and Anderson 1982)[2].

Of course, by setting up a full factorial survey, this is not an issue. In my study, all the combinations have been submitted to the respondents for evaluation and, in principle, all higher order interactions can be estimated. In this regard, researchers must evaluate potential implausible cases of some combinations, event where it may be necessary to remove them from the vignette population, incurring a cost in terms of the estimation's power (Auspurg et al. 2009). However, the selection of vignette dimensions in this study does not entail implausible combinations.

I randomly selected, without replacement, sets of six vignettes, each from the vignette universe. To maximise dimension variance within each block, I imposed on the randomisation that each dimension varies at least once in each block. This means that each respondent saw at least one variation for each vignette dimension. For example, one set could have all potential partners' vignettes with a high school diploma apart from one, which could have been either a Bachelor or Master's degree.

Thus, a unique set of vignettes was submitted for the evaluation of each respondent, who was asked to rate each vignette on a scale from 0 to 10. The total number of respondents was 243 women and 243 men.

The construction of the experiment and, thus, of the database was conducted with the user-written command fsdesign on stata (Pisati and Ridolfi 2015). Then, the print of the visual versions of potential partners' vignettes was carried out with LaTeXthrough a code compiled in Stata. Potential partners' dimensions were presented on the left and the picture of their face was shown on the right. Following Auspurg and Jäckle (2017), I did not present the vignette dimensions in random order since the number of dimensions was equal to seven and the subject of the study was definitely familiar to respondents. Indeed, scholars

---

[2] Quota samples drawn by the D-efficient sampling technique is a remarkable alternative because it maximizes orthogonality among vignette dimensions minimising the size of the vignette sample to be evaluated (Auspurg and Hinz 2014; Dülmer 2007, 2016).

have found that only when dimensions are more than 12 and/or respondents do not know the subject of the study, is it important to randomly present the order of dimensions to minimise potential order effects.

Overall, the visual construction of the vignettes arises from the aim of improving experiment realism (Aguinis and Bradley 2014). Thus, I tried to present the vignettes in the form of user vignettes on an internet dating service application. Figure 3.2 shows an example set of female vignettes.

3.3.5 The respondent population

The overall aim of this study is to test the causal impacts of specific potential partners' characteristics on mating desirability with a focus on highly educated young adults. As reported by Auspurg and Hinz (2014) even if a representative national sample is, overall, more appropriate for making generalisations about behaviour, a homogeneous sample of students is suitable for testing causal hypotheses because such samples can lead to "purer" effects estimations. Meanwhile, population homogeneity implies less inter- respondent variation. Thus, researchers must make a trade-off between controlling respondents' homogeneity to accurately test causal theories or instead focusing on social group differences to gain greater generalisation but less statistical power in the estimations of the impact of the vignette dimensions.

Of course, the definition of the respondent population also implies finding a balance between sources of heterogeneity and research resources. Indeed, the higher the heterogeneity of the respondent population, the more complex the design must be both in terms of the vignette population definition and the size of the sample of respondents. For instance, ethnicity and sexual orientation are dimensions that impact mating preferences (Hitsch et al. 2006; Lin and Lundquist 2013; Lippa 2007; Potarca and Mills 2015). Thus, including variability on these two dimensions would have necessitated a more complex design. Therefore, optimising the homogeneity of the respondent population is a good practice to achieve more accurate estimations.

Following these considerations, the respondent population of this study was formed by individuals with the following characteristics:

- born between the 1st of January 1992 and the 31st of December 1995;

- with Italian citizenship;

- Caucasian;

- cisgender (gender identity matches the sex assigned at birth);

- heterosexual;

- enrolled in a Master's degree course at the University of Milano–Bicocca.

3.4   Respondent sampling and data collection

3.4.1   A quota sampling

Respondents were selected through a quota sampling drawn from the respondent population. Following the University of Milano–Bicocca's rules, I asked each Master's course coordinator for authorisation to contact their respective students and involve them in this research. I received the authorisation from 28 Master's course coordinators from a total of 38. Altogether these courses count a total of 3983 students (2428 women). For privacy issues, I did not have direct access to students' information, such as their sex or their email address. Thus, the office of informatics service and didactic support of the University conducted the sampling following my requests.

This factorial survey was carried out on-line via computer-assisted self-interview (CASI) and smart-phone-assisted self-interview (SASI) on the software LimeSurvey. Following the recommendation of Auspurg and Hinz (2014), self-completion is preferable because it reduces social desirability bias, and vignettes are better understood if read directly by respondents.

Respondents were contacted via email and, if after several days (two to five), they did not complete the survey, they were recontacted with a reminder. Invitations and reminder texts were written following the methodological literature on online surveys. Thus, these texts were informal and personalised. The aim of the research was presented, and the importance of participating in the study emphasised. Moreover, access to all the informative documents of the research was provided (Aviram 2012; Joinson et al. 2007; Koch et al. 2012). In Appendix A., the text of the invitation is reported, as well as the informative documentation (in Italian). The sets of vignettes to be evaluated were, as stated, 243 for each sex, thus, also the quotas of respondents were equal to 243 each. The procedure to complete the two quotas followed these steps:

1. random sampling from the population of 243 male and 243 female students;

2. random assignation to each selected respondent one of the set of 243 vignettes not evaluated;

3. dispatch of the invitation email;

4. deployment of reminder emails to those who did not participate, and did not ask to be excluded from the research;

5. final count of the amount of completed surveys by individuals with the respondent population requirements;

6. re-sampling of the remaining respondents in each quota;

7. restart from step (2) until the completion of the two quotas.

Given that at each re-sampling, the number of people contacted decreased, the number of completed surveys also decreased. Thus, to maximise the completion of the quotas, the number of remaining blocks was multiplied by ten for the last re-sampling. For the analysis, I then randomly selected one evaluated block among those assessed more than one time. I was able to reach the quota completion with a total of 9 samplings during almost three months – from the 24th of April to the 18 of July 2018.

3.4.2 The on-line survey

On the first page of the survey, respondents could access all the information about the research project. In order to start the survey, they had to confirm they had received all the information and then give their consent to participate in the study and for the use of their data for scientific purposes. Then, the survey started with a set of filter questions to select the respondents who met the requirements for participation in the experiment. Thus, questions were asked about gender identity, nationality, ethnic group and sexual orientation. The students who did not then qualify to enter the respondent population were instead asked to express their preferences about a list of traits that might be found in a potential partner. The aim of this part of the survey, was to not formally exclude anybody from the research. Students who entered the respondent population were instead directed to the unique set of vignettes previously assigned to each of them. For each vignette, they were asked to evaluate how much they considered each profile to be desirable for a long-term relationship, by assigning the profile a rating of between 0 and 10. All the vignettes appeared on the same page and respondents were able to scroll up

and down to make a comparison when evaluating them. Then all participants were asked to give some personal information, such as their year of birth, height, religion, and their parents' educational level and occupational status. Also, they answered questions about their own interest in marriage and children and current romantic relationship status. Finally, to have a measure of respondents' gender egalitarian values, they expressed their agreement (or not) with a set of statements on this topic. The full questionnaire is reported in Appendix A.

3.5 The analytical model

3.5.1 The model specification

Statistical analysis of factorial experiments may entail the complete repertoire of multivariate analytical methods such as ANOVA, linear and logistic regressions. The choice depends on the experimental design and the type of outcome variable (Auspurg and Hinz 2014; Rossi and Anderson 1982).

The factorial survey assumes that the evaluation of the vignettes of a specific study subject is a function of a set of attributes that define it. In this study, respondents were asked to evaluate, with a value from 0 to 10, each vignette of the unique set assigned to each of them. Thus, the dependent variable Y expresses the measure of mating desirability of potential partners' vignettes and is a function of the seven dimensions (covariates) included in the experiment.

Given that each respondent evaluated six vignettes, the data is structured on two levels. The vignette dimensions are on the first level, while respondents' and sets' characteristics are on the second level. Thus, vignettes are nested within respondents. This means that with factorial surveys we need to take into account the correlated error terms of the respondents' level. The best way to do it is by estimating a multilevel model.

Thus, as Y indicates the outcome variable that measures mating desirability, $j = 1, \ldots, 243$ the respondents and $i = 1, \ldots, 6$ the evaluated vignettes, then y_{ij} expresses the rating assigned by the respondent j to the vignette i of his/her block of vignettes. As a result, each rating y_{ij} is a linear and additive function of three distinct components, described as follows:

$$y_{ij} = \mu_{ij} + \upsilon_j + \epsilon_{ij} \tag{3.1}$$

where:

- μ_{ij} is the *structural component* of the model, namely dimensions effects on mating desirability of vignettes under evaluation;
- v_j denotes the *individual idiosyncratic component* of the model, namely a measure of the respondent's characteristics and the specific composition of the vignette set assigned to him/her;
- ϵ_{ij} is the *residual component* of the model and depends on uncontrollable and negligible effects on the vignettes level. This component is the difference between the observed values y_{ij} and those predicted by the model $\hat{y}_{ij}$ that are equal to $\mu_{ij} + v_j$ and form the systematic component of the model.

More specifically, the structural effects μ_{ij} are defined as a linear function of the vignette dimensions, their interactions and the cross-level interactions.

$$\mu_{ij} = \sum_{1=k}^{p} \beta_k x_{kij} \tag{3.2}$$

where x_{kij} is the value of each regressor X_k for the vignette i evaluated from respondent j; the regressor X_k $(k = 1, \ldots, p)$ are variables that represent the vignette dimensions, their interactions and the cross-level interactions; and β_k is the regression coefficient associated to each regressor X_k.

Idiosyncratic individual effect v_j are defined as realisation of a casual variable v with a Gaussian distribution with expected value equal to α and variance equal to σ_v^2. Formally:

$$v_j \in v \sim \mathrm{N}(\alpha, \, \sigma_v^2) \tag{3.3}$$

$$0 < \alpha < 10; \quad \sigma_v^2 > 0 \tag{3.4}$$

Finally, the residuals ϵ_{ij} are defined as realisations of a casual variable ϵ with a gaussian distribution with expected value equal to zero and variance equal to σ_ϵ^2. Formally:

$$\epsilon_{ij} \in \epsilon \sim \mathrm{N}(0, \, \sigma_\epsilon^2) \tag{3.5}$$

$$\sigma_\epsilon^2 > 0 \tag{3.6}$$

Thus, the specification of the analytical model of this study will be as follows:

$$y_{ij} = \sum_{1=k}^{N} \beta_k x_{kij} + \upsilon_j + \epsilon_{ij} \tag{3.7a}$$

$$\upsilon_j \in \upsilon \sim \mathrm{N}(\alpha, \sigma_\upsilon^2)$$
$$0 < \alpha < 10; \quad \sigma_\upsilon^2 > 0 \tag{3.7b}$$

$$\epsilon_{ij} \in \epsilon \sim \mathrm{N}(0, \sigma_\epsilon^2)$$
$$\sigma_\epsilon^2 > 0 \tag{3.7c}$$

where all the terms of the model are defined as above.

To estimate the parameters of the model, I estimate a maximum likelihood two-level regression model (Gelman and Hill 2007; Rabe-Hesketh and Skrondal 2012). Each estimate has been obtained with the command `mixed` of the statistical software Stata (StataCorp 2017).

3.5.2 Results interpretations

Variance explained by structural effects

To evaluate the proportion of the variance explained by the structural effects, I use three different measures of the coefficient of determination R^2. These evaluate the ability of the chosen model compared to the empty model which expresses the mating desirability ratings as a function of only the individual idiosyncratic effects and the residuals. This model is defined as follows:

$$y_{ij} = \upsilon_{0j} + \epsilon_{0ij} \tag{3.8a}$$

$$\upsilon_{0j} \in \upsilon_0 \sim \mathrm{N}(\alpha_0, \sigma_{\upsilon_0}^2)$$
$$0 < \alpha_0 < 10; \quad \sigma_{\upsilon_0}^2 > 0 \tag{3.8b}$$

$$\epsilon_{0ij} \in \epsilon_0 \sim \mathrm{N}(0, \sigma_{\epsilon_0}^2)$$
$$\sigma_{\epsilon_0}^2 > 0 \tag{3.8c}$$

where all the terms of the model are defined as above.

This model (3.8) differs from the chosen one (3.7) just for the absence of the structural component. Thus, the comparison between the two models permits us to estimate how much the chosen model enhances the ability of the empty

model to explain the observed variance of the mating desirability ratings.

The first measure of the explained variance is the one proposed by Raudenbush and Bryk (1986, 2002), defined as follows:

$$R_\epsilon^2 = 1 - \frac{\sigma_\epsilon^2}{\sigma_{\epsilon_0}^2} \tag{3.9}$$

This measure expresses the proportion of the residual variance of the empty model explained by the structural components included in the chosen model.

The second measure of the explained variance is the one proposed by Snijders and Bosker (1994), expressed as follows:

$$R_1^2 = 1 - \frac{\sigma_v^2 + \sigma_\epsilon^2}{\sigma_{v_0}^2 + \sigma_{\epsilon_0}^2} \tag{3.10}$$

This measure expresses the proportion of the total variance of Y explained by the structural components included in the chosen model.

Finally, the third measure, suggested by Nakagawa and Schielzeth (2013), follows the same logic of the former one but is defined in a slightly different way:

$$R_{\text{LMM}(m)}^2 = \frac{\sigma_\mu^2}{\sigma_\mu^2 + \sigma_v^2 + \sigma_\epsilon^2} \tag{3.11}$$

Average causal effects of vignette dimensions

Running multiplicative interactions models leads to complex tables of results that, typically, give few direct pieces of information. Indeed, constitutive terms of the model are not measures of the main (or independent) effects, given the inclusion of interactions. Thus, the best way to proceed is to estimate and plot the average causal effects of each covariate (Brambor et al. 2006). Thus, following Williams's Williams (2012) indications on the use of the `margins` command on Stata, I estimate the average causal effects of the vignette dimensions.

To gain a measure for each level of each vignette's attribute, I estimate average causal effects on the "grand mean". Thus, these measures display the distance from the "grand mean", namely the average positive, null or negative impact of each attribute's level on the mean of rating, within males raters and female raters. This procedure follows Jann's Jann (2006) regression coefficients transformation implemented in the `devcon` command in Stata. With this parameterisation, coefficients display the deviation from the "grand mean" rather than from the base category. Thus, the sum of all modified

coefficients is zero, and all coefficients are estimated. Given the presence of a set of factor variables interactions, it is not possible to use this command to straightforwardly transform regression coefficients. However, by estimating the average causal effects, I gain the same results. As a consequence, I present the results graphically with the powerful `coefplot` command, particularly suitable for plotting marginal effects (Jann 2014).

Età:
Intorno ai trent'anni

Altezza:
Più o meno come te

Titolo di studio:
Diploma di maturità

Disponibilità economica:
Intorno a 600 euro al mese

Prospettive di carriera:
Alte

Credenze religiose:
Un po' diverse dalle tue

Età:
Tua coetanea

Altezza:
Circa 10 cm più bassa di te

Titolo di studio:
Diploma di maturità

Disponibilità economica:
Intorno a 600 euro al mese

Prospettive di carriera:
Alte

Credenze religiose:
Un po' diverse dalle tue

Età:
Tua coetanea

Altezza:
Circa 10 cm più alta di te

Titolo di studio:
Laurea triennale

Disponibilità economica:
Intorno a 1.000 euro al mese

Prospettive di carriera:
Medie

Credenze religiose:
Un po' diverse dalle tue

Età:
Intorno ai trent'anni

Altezza:
Circa 10 cm più bassa di te

Titolo di studio:
Laurea triennale

Disponibilità economica:
Intorno a 1.500 euro al mese

Prospettive di carriera:
Medie

Credenze religiose:
Uguali alle tue

Età:
Tua coetanea

Altezza:
Circa 10 cm più bassa di te

Titolo di studio:
Laurea quinquennale

Disponibilità economica:
Intorno a 1.000 euro al mese

Prospettive di carriera:
Medie

Credenze religiose:
Uguali alle tue

Età:
Tua coetanea

Altezza:
Più o meno come te

Titolo di studio:
Laurea quinquennale

Disponibilità economica:
Intorno a 600 euro al mese

Prospettive di carriera:
Basse

Credenze religiose:
Diverse dalle tue

FIGURE 3.2. Example set of vignettes (Female versions).

Note: Pictures are censored in respect of the license agreement with Bainbridge et al. (2013) who permitted the use of them just for scientific research but not publication.

Chapter 4

The analysis of mating preferences

Similarities and differences between men and women

4.1 An overview

In this chapter, I report and discuss the analysis of the data collected from the full factorial survey experiment examining the mating preferences of a sample of Master's students of the University of Milano–Bicocca.

In the second section, I evaluate the quality of the respondent sample, then, the distribution of the dependent variable analysed in this study. This is the rating, assigned by male and female respondents, of the mating desirability of a population of fictive descriptions (i.e. vignettes) of potential partners. Moreover, I estimate the chosen model and report the distribution of its components as well as its ability to explain the variance of the dependent variable across the vignette population.

In the third section, I report and discuss the average causal effects of the levels of the dimensions that describe the vignettes of potential partners. As the mating desirability rating is a function of the set of chosen dimensions expressed in different levels, its variation depends on them. The estimated effects can be considered as average causal effects, given the perfect orthogonality among dimensions. Thus, the average effects are treated as experimental conditions.

However, as discussed in Chapter 3, regression coefficients of the chosen model are not directly interpretable given the inclusion of complex interactions between factor variables. Thus, I compute the average causal effects of each

factor by sex. Also, instead of estimating causal effects as differences from the reference category, I estimate them as differences from the "grand mean". In so doing, the impact of each factor is estimated, and their sum will be equal to zero.

Thus, I report the average causal effects of the factors by sex, and differences between them. Then, I analyse the average causal effects of the factors conditioned by facial beauty, and variations within each sex and between sexes. Finally, in the fourth section, I discuss the hypotheses presented in Chapter 3 in light of the results.

4.2 Evaluation of the data and the chosen model

4.2.1 The respondent sample

As previously reported, respondents were selected through a quota sampling. However, the sampling strategy was aimed at reaching a good randomisation to minimise systematic selection biases. Thus, to evaluate the informative quality of the male and the female samples, I conducted two checks.

First, I compared the frequency distribution of the Master's courses within the experimental sample, as well as the total of the University of Milano–Bicocca Masters' students, by sex. As Table (to be inserted) shows, the percentages are almost identical across courses for both men and women. Thus, the experimental sample is not biased in terms of the representation of Master's courses.[1].

Second, I compared the respondents' height distribution with that of the entire target population. To this end, I used the data of the survey "Health Condition and use of Health Services" carried out by the Italian National Statistics Institute (ISTAT 2013). The more recent wave of this survey was conducted in 2013. During this year the respondents of my study were between 18 and 21 years old. Thus, they had already reached their adult height. I restricted the analysis to people between 18 and 21 years old, with Italian citizenship, resident in Lombardy, enrolled in school or university.

Figure 4.1 displays the height curve distributions of men and women among the representative samples (solid lines) and among the experimental samples

---

[1] Even if, we must note that, only the students of 28 Master's degrees (from a total of 38) could be contacted to participate to the study.

Table 4.1. Comparison between the percentage distribution of Master's degrees among the total of the students and those who participated to the study, by sex

	Master's degrees	Male students				Female students			
		Total population		Sample		Total population		Sample	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	Law	266	17.1	26	10.7	497	20.43	41	16.87
2	Anthropological and ethnological sciences	19	1.22	2	0.82	64	2.63	7	2.88
3	Industrial biotechnology	60	3.86	8	3.29	82	3.37	9	3.7
4	Medical biotechnology	21	1.35	1	0.41	48	1.97	8	3.29
5	Economy and finance	141	9.06	21	8.64	45	1.85	2	0.82
6	Physics	80	5.14	15	6.17	27	1.11	4	1.65
7	Computer technology	154	9.9	21	8.64	16	0.66	1	0.41
8	Marine sciences	26	1.67	6	2.47	12	0.49	0	0
9	Psychology of social	21	1.35	5	2.06	47	1.93	3	1.23
10	Psychology of development and educational	53	3.41	7	2.88	147	6.04	11	4.53
11	Clinical psychology and neuropsychology	8	0.51	1	0.41	179	7.36	22	9.05
12	Applied experimental psychological sciences	48	3.08	13	5.35	347	14.26	45	18.52
13	Materials science	11	0.71	3	1.23	12	0.49	2	0.82
14	Materials science	16	1.03	6	2.47	7	0.29	2	0.82
15	International economics	11	0.71	1	0.41	4	0.16	1	0.41
16	Human resources training and development	29	1.86	9	3.7	19	0.78	2	0.82
17	Astrophysics and space physics	43	2.76	13	5.35	206	8.47	18	7.41
18	Science and technology for the environment	21	1.35	4	1.65	8	0.33	1	0.41
19	Tourism economy	57	3.66	12	4.94	44	1.81	2	0.82
20	Statistical and economic sciences	35	2.25	5	2.06	39	1.6	3	1.23
21	Statistical and economic sciences	19	1.22	1	0.41	29	1.19	2	0.82
22	Biostatistics	75	4.82	12	4.94	62	2.55	10	4.12
23	Planning and management of social policies	12	0.77	1	0.41	76	3.12	10	4.12
24	Analysis of social processes	6	0.39	1	0.41	11	0.45	0	0
25	Data science	56	3.6	9	3.7	10	0.41	0	0
26	Theory and technology of communication	33	2.12	1	0.41	95	3.9	9	3.7
27	Medicine and surgery	198	12.72	36	14.81	251	10.32	22	9.05
28	Dentistry and dental prosthesis	36	2.31	3	1.23	44	1.81	6	2.47
	Missing	1	0.06			5	0.21		
	Total	1556	100	243	100	2433	100	243	100

(a) Male height

(b) Female height
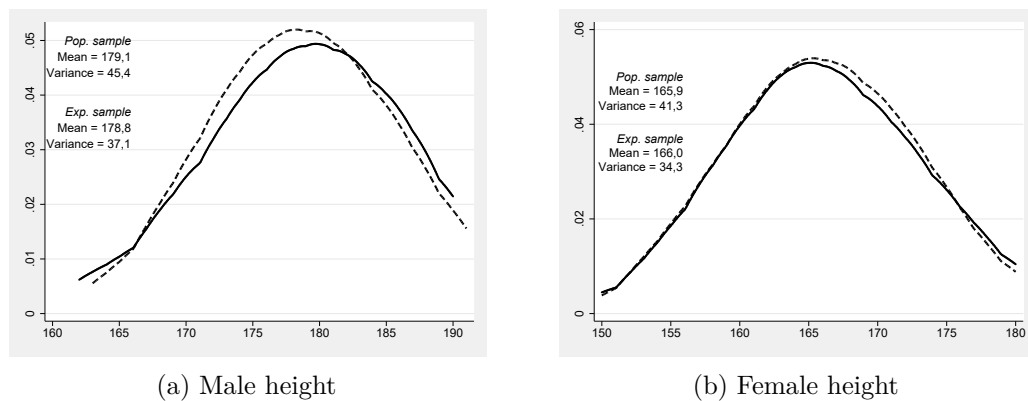
Figure 4.1. Comparison between the frequency distribution of height in a representative sample of the target population (solid line) and in the experimental sample of this study (dash line) within each sex. Male representative sample, N= 131; female representative sample, N= 105; experimental samples equal to 243 respondents for both sexes.

(dash lines). For both men and women, the curves almost match.[2]

These two checks show that the quality of the two quotas sample is high. Of course, this information is not enough in terms of representation of the target population, but we can trust to some extent that the sample is not strongly biased in terms of selection.

4.2.2 Distribution of mating desirability rating

The dependent variable is the rating that respondents assigned to vignettes with a number between 0 and 10. This score expresses a measure of the mating desirability of the potential partners' vignettes. Figure 1.2 shows the frequency distribution of mating desirability ratings assigned by male and female respondents to the vignettes of potential partners. Both distributions curves are approximately normal and show that respondents used all the values on the scale. This confirms the continuous type of the dependent variable and

---

[2] As reported in Chapter 2, evidence has shown that education is associated with one's own height. I conduct an independent-samples t-test – within each sex – to compare height among Italians between 18 and 21 years old, resident in Lombardy and enrolled in a school or university and those not enrolled in a school or university. There is a significant difference in height for male students ($N = 131$, $M = 179.1$) and male not students ($N = 83$, $M = 176.9$), $t(212) = 2.35$, $p = 0.02$. Likewise, there is a significant difference in height for female students ($N = 105$, $M = 166$) and female not students ($N = 71$, $M = 164$), $t(174) = 2.01$, $p = 0.046$.

(a) Mating desirability ratings assigned by male respondents

(b) Mating desirability ratings assigned by female respondents
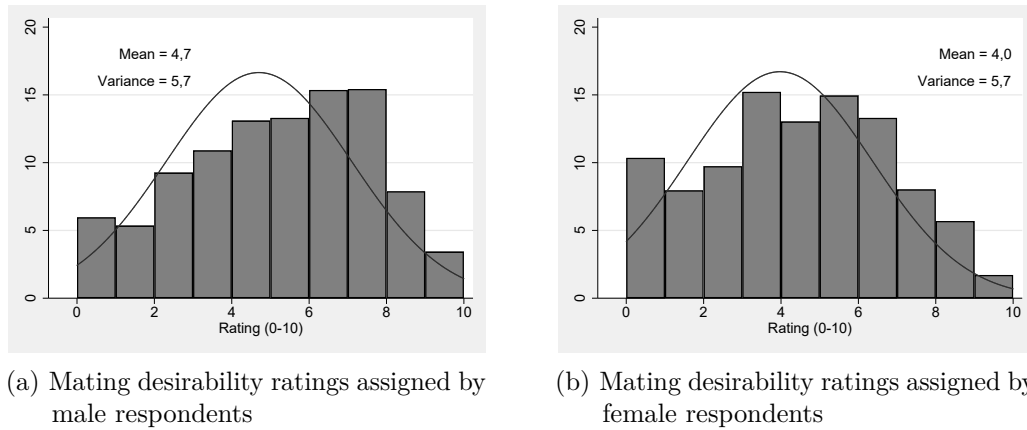
FIGURE 4.2. Percentage frequency distributions of mating desirability ratings assigned by male and female respondents to vignettes of potential partners.

justifies the chosen analytical model[3]

The frequency distribution of the ratings given by men is symmetrical with a peak around the response values 6 and 8, while the frequency distribution of the ratings, appointed by women, shows a peak at the response value 0 that makes the curve slightly asymmetrical to the left. These frequency distributions are similar to those presented in Chapter 3 of facial beauty. In both cases, ratings assigned by women are slightly asymmetrical to the left, and the overall response values are lower than the male ones. Indeed, the female rating to male mating desirability has a mean equal to 4, whereas the male rating to female mating desirability has a mean equal to 4.7. An independent-samples t-test to compare the ratings between male and female respondents reveals that the means are different in terms of statistical significance ($t(8.2) = 2914$, $p = 0.000$).

4.2.3   Estimation and evaluation of the model

To test the first nine hypotheses, I fitted a unique model for male and female ratings with, on the first level, random effects of vignette dimensions separated for men and women and residual heteroskedasticity; and, on the second level, the fixed effect of sex. Thus, all the parameters of the model 3.7 doubled. Specifically, in the unique model, the structural component is

---

[3] Anomalies like strong censored responses may lead to alternative analytical models (Auspurg and Hinz 2014, 101-103).

formed by the seven vignette dimensions, the two-way interactions between the seven vignette dimensions and sex, and the three-way interactions between six vignette dimensions, sex and facial beauty. Moreover, the unique model, also, includes the two measures of the individual idiosyncratic component, one attributed to male raters and one to female raters; finally, the residual components are separated for men and women. By fitting just one model, it is possible to straightforwardly estimate the differences between the causal impacts of each dimension on mating desirability ratings when the raters were men and when they were women.

This section presents the results of the maximum-likelihood multi-level model fitted to estimate the causal impacts of the structural component of the vignette dimensions (independent variables) on the mating desirability rating (dependent variable). To evaluate the model, I present the percentage frequency distribution of the estimates of the three components of the model and the predicted values by the sex of the respondents. Then, I discuss the capacity of this model to explain the variance of the dependent variable.

Figure 4.3 shows the percentage distribution of maximum-likelihood estimates of model components as specified in 3.1. All components are, as expected, approximately normally distributed.

Table 4.2 1 reports the estimates of the idiosyncratic and residual variance of both the null and the chosen model – for each sex – and the three R^2 coefficients, defined in Chapter 3. The variance of the individual idiosyncratic component remains almost constant between the empty model and the chosen model both for male and female respondents. The variance of the residual, instead, decreases for both male and female respondents. Indeed, the structural component, included in the chosen model, explains almost the 34% and the 41% of the residuals of the mating desirability rating assigned respectively by men and women, as reported by the measures of R^2. Moreover, the chosen model explains around 23% of the total variance of the mating desirability rating of both male and female respondents.

(a) Structural effects

(b) Idiosyncratic effects (Level II)

(c) Predicted values
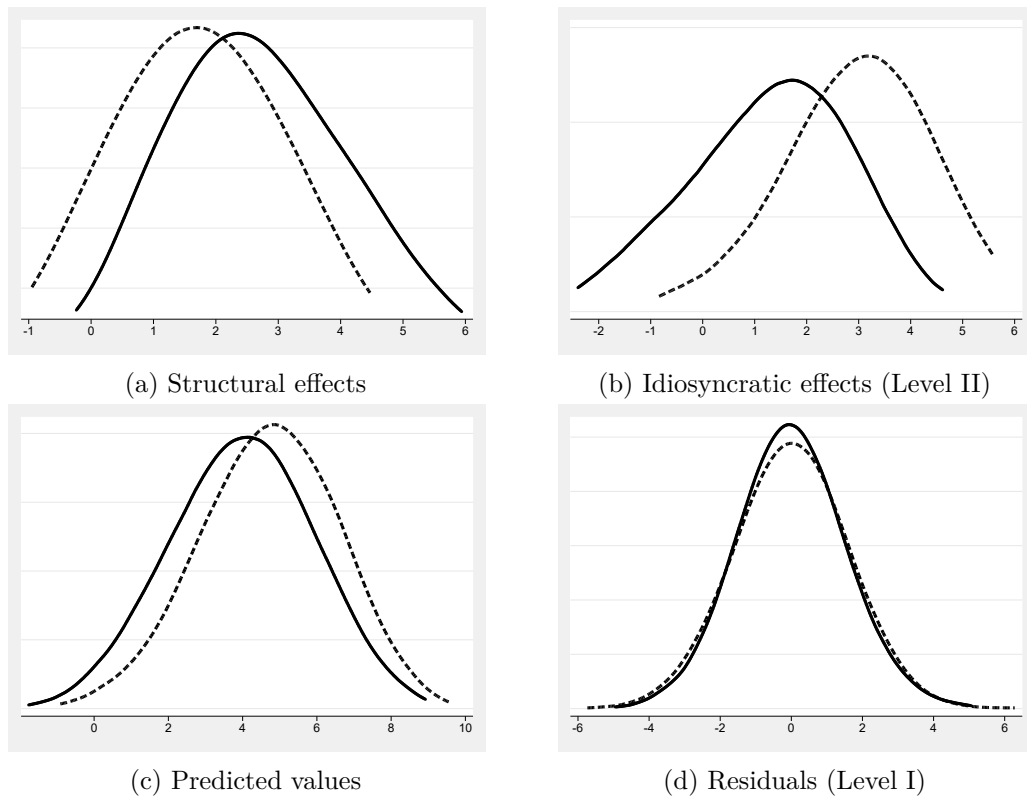
(d) Residuals (Level I)

FIGURE 4.3. Percentage frequency distribution of the maximum-likelihood of estimated of structural effects, individual idiosyncratic effects of the second level, of predicted values and of the residuals of the first level, by sex (dashed line = men, solid line = women).

4.3 The structural effects on potential partners' mating desirability

4.3.1 The average causal effects of vignette dimensions

Figure 4.4 shows the estimate of the average causal effects of each level of the vignette dimensions on the mating desirability rating assigned by men and by women and their differences.

The estimate associated with each level expresses the average measure with which the presence of that level increases or decreases the mating desirability of the descriptions of potential partners evaluated by respondents. Average causal effects are estimated with 95% confidence intervals which, given the characteristics of the full factorial design, have the same length for each dimension with three levels, but are narrower for the dimension with two levels (age).

TABLE 4.2. Maximum likelihood estimates of the variance of the individual idiosyncratic effects and of the residuals (empty model and chosen model) and measures of the variance explained by the chosen model, by sex.

	Men		Women	
	Empty Model	Chosen Model	Empty Model	Chosen Model
$\hat{\sigma}^2_{v_0} \, / \, \hat{\sigma}^2_v$	2,050	1,921	2,015	2,294
$\hat{\sigma}^2_{\epsilon_0} \, / \, \hat{\sigma}^2_\epsilon$	3,689	2,443	3,680	2,166
R^2_ϵ	–	0,338	–	0,411
R^2_1	–	0,239	–	0,217
$R^2_{\text{LMM}(m)}$	–	0,224	–	0,246

Nota: all measures are defined in section 3.5.2.

When a confidence interval crosses the value zero on the x line, the effect of the respective level on the rating is not significant. Additionally, differences between the two effects are not significant when the respective confidence intervals overlap.

However, the comparison between the confidence intervals of two estimations is not the most advisable procedure to understand whether the effects are significantly different on the male and female ratings. Indeed, a direct comparison of estimates with 95% confidence intervals between independent groups with different means is a excessively conservative procedure (Cumming 2009)). Therefore, the average causal effects of dimension levels on ratings are plotted separately for vignettes evaluated by men and those assessed by women. Moreover, the third graph displays the estimated contrast between the causal effects of vignettes evaluated by women from those of the vignettes valued by men. Tables of average causal effects on the mating desirability rating and the differences between sexes are reported in Appendix B.

Biological dimensions

Potential partners who are 30 years old, are, on average, less desirable than those who are the same age as male and female respondents. Specifically, being around 30 years old has, on average, a negative causal impact on the average rating, while being the same age in comparison to respondents has, on
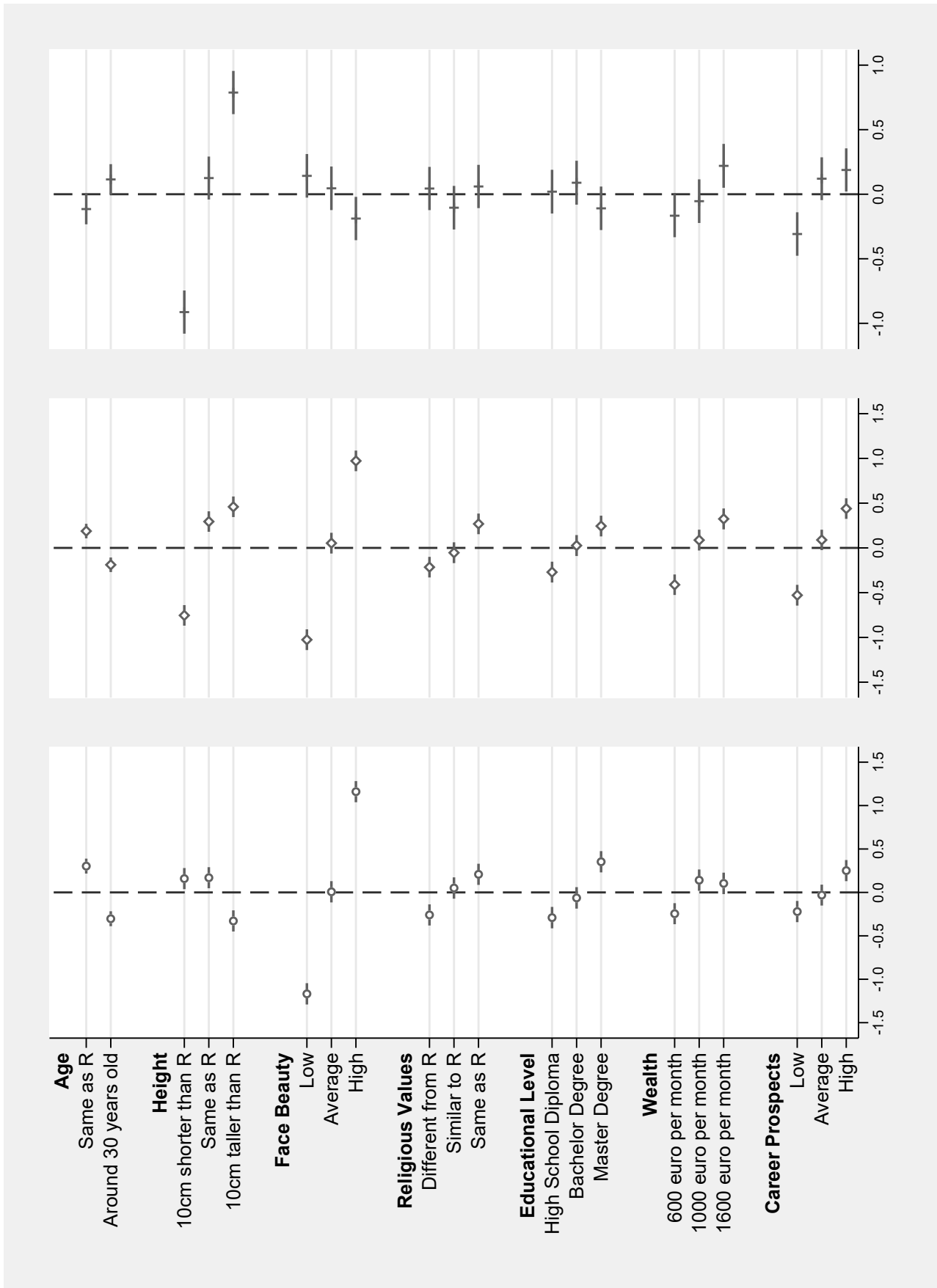
FIGURE 4.4. Estimates of the average causal effects of potential partners' dimensions with 95% confidence interval, by sex and estimated differences between sexes. From the left: *circles*= men rating women; *diamonds*= women rating men; *dashes*= differences between sexes (men as base category).

average, a positive causal impact on the average rating. Both average causal effects are statistically significant for men and women. The wider distance between the average causal effects of age levels on the average rating assigned by men suggests that they tend to care more about age in a potential partner compared to women. Differences in the average causal impacts of age levels on the average male and female rating are not statistically significant, given that both confidence intervals touch the zero value (Figure 4.4- graph on the right). However, the direction of the estimates of these differences suggests that, on average, it was less important for a woman than for men that a potential partner is the same age as her.

Men, on average, rated potential partners who were 10 cm taller compared to them as less desirable than those who were either the same height or 10 cm shorter than them. Thus, being 10 cm taller has, on average, a statistically significant and negative causal effect on the average rating given by men; while being as tall as the respondent or 10 cm shorter than the male respondent has, on average, a statistically significant and positive causal effect, but the difference between the negative impacts of these two conditions is not statistically significant.

In contrast, women, on average, evaluated potential partners who were 10 cm shorter than them as less desirable, as compared to those who were the same height and those who were 10 taller than respondents. Therefore, being 10 cm shorter has, on average, a statistically significant and negative causal effect on female ratings, whereas being as tall as a female respondent or 10 cm taller has, on average, a statistically significant and positive causal effect. Also, even the difference between the estimates of the two preferred height conditions is not statistically significant, there is a slight distance between them that may suggest an underlying direction of female preference towards taller men. Also, the wider distance among height levels suggest a greater relevance of height in a potential partner for women as compared to men.

As expected, the average causal effect of being 10 cm shorter than the respondents on the average rating of women is significantly different from that specified by men ($p-value < 0.01$). Women assigned vignettes with this condition, on average, almost 1 point less, compared to men. The average causal effect of being 10 cm taller on the average rating of women is also significantly different from that of men ($p-value < 0.01$). Indeed, women gave, on average, 0.7 points more, compared to men, to descriptions of potential partners who were 10 cm taller than respondent. Instead, the difference of the

average causal effects of being as tall as respondents on the average ratings between men and women is not statistically significant.

On average, both men and women assigned about 1 point less to potential partners with faces that were not attractive and 1 point more to those with very attractive faces. Both average causal effects of faces with low and high attractiveness face have a statistically significant difference from that of faces of average beauty. Overall, facial beauty is the vignette dimension that has the strongest impact on the average rating of men and women.

Slight differences appear between these effects between male raters and female raters. Indeed, the average causal effect of having an attractive face on the female rating is significantly different from that of men ($p-value < 0.05$). Women, on average, gave a rating of almost 0.2 points less to attractive faces compared to men. Beyond statistical significance, the direction of the estimates of the differences suggests that women tend to place less importance on beauty than men.

Cultural dimensions

Among both of the cultural dimensions of the vignettes– religious values and educational levels– the average causal impacts on the average ratings are very similar between men and women. Both rated as more desirable, on average, potential partners with the same religious values as their own and potential partners with a Master's degree as compared, respectively, to those with different religious values than their own and those with a high school diploma. Thus, while having the same religious values and a Master's degree both have a statistically significant and positive causal impact, different religious values and high school diplomas both have a statistically significant and negative causal impact on both average ratings. Middle levels (respectively similar religious values and a bachelor degree) have almost no impact on both average ratings. Overall for these two dimensions, there are not statistically significant differences of the average causal effects on average ratings between sexes.

Socioeconomic dimensions

Men and women judged as less desirable potential partners with an available income of about 600 euro per month compared to those with either about 1000 or 1600 euro per month. Thus, the average causal impact of having 600 euro

per month is statistically significant and negative on both average ratings. A wealth of around 1000 euro is significantly positive (even if very small) on ratings assigned by male respondents but the difference between this condition and the one above (1600 euro) is not statistically significant. Additionally, this latter wealth level has a statistically insignificant effect on the average rating of male respondents. Instead, the average causal effect of a potential partner's wealth of 1000 euro is not significant on the average rating given by women. However, the difference between this condition and that of having 1600 euro is significant. Therefore, the average causal effect of this condition is, on average, stronger than the other two.

There is a statistically significant difference between the impact of having 1600 euros on the average rating of women compared to men. Specifically, potential partners with about 1600 euro per month have been assessed, on average, with a rating of 0.22 points more from women compared to men ($p - value < 0.05$). As for facial beauty, but in reverse, the direction of the estimates of the differences suggest that women tend to place more importance on wealth than men.

Finally, both men and women evaluated as less attractive potential partners with low career prospects compared to those with average and high career prospects. While the average causal impact of having low career prospects is negative and statistically significant, and that of having high career prospects is positive and statistically significant, that of having average career prospects is not statistically significant on the average ratings of either men or women. Moreover, the difference between the average causal impact of having low or average career prospects is not statistically significant on the average rating assigned by men, whereas it is so on the average rating given by women.

Overall, it is evident that career prospects are a more important dimension when women judge male vignettes compared to the opposite situation. Moreover, differences in the average causal impacts of having low career prospects and those of having high career prospects between men and women are statistically significant. Indeed, women gave, on average, 0.30 points less ($p - value < 0.01$) to potential partners with low career prospects and 0.18 points more ($p - value < 0.05$) to those with high career prospects, compared to men.

So far, I have presented differences in the causal average effects on average ratings with a single test for each level. Since the two-way interactions between each dimension and sex are included in the chosen model, an evaluation of their joint statistical significance can be obtained. By computing a joint test for each

two-way interaction effect, results show that, with at least a 95% statistical confidence, sex moderates the average effect of height ($p - value = 0.000$), wealth ($p - value = 0.0028$) and career prospects ($p - value = 0.001$) on the average rating. Also, there is an interaction between sex and age but with slightly less statistical confidence ($p - value = 0.0567$).

4.3.2 The average causal effects of vignette dimensions by facial beauty

Figures 4.5 and 4.7 show estimates of the average causal effects of each dimension level on the mating desirability conditioned by facial beauty on, respectively, the average rating of men and that of women. As in Figure 4.4, average causal effects are estimated with 95% confidence intervals and are measures of the distance from the grand mean rather than from the base category. As a consequence, interpretations of the average causal effects follow the instructions reported above. Moreover, in figures 4.5 and 4.7, the frequency distribution of rating among each facial beauty level is reported next to the plot of the average marginal effects among the respective facial beauty level. Then, figures 4.6 and 4.8 report the differences between the average causal effects between facial beauty levels within each sex. Finally, figure 4.9 shows the estimated contrasts between the average causal effects on male and female ratings within each level of facial beauty.

Differences between facial beauty level within ratings of men

By looking at the right side of Figure 4.5, we can notice that the mean of the ratings increases with facial beauty. Potential partners' vignettes evaluated by men were assessed with an average rating of 3.5 when they displayed low facial beauty, and up to 5.9 when they displayed a high facial beauty. Interestingly, the variance of ratings also decreases with facial beauty suggesting that, as female beauty increases, male ratings are more consistent.

The average causal effects of dimension levels, conditioned by facial beauty, are reported on the left side of Figure 4.5. At first glance, these graphs suggest that the average causal effects do not vary with facial beauty. Indeed, estimated distances from the zero on the x line, and levels of each dimension, are almost equal suggesting that dimension levels have similar impacts on the grand mean across facial beauty levels.
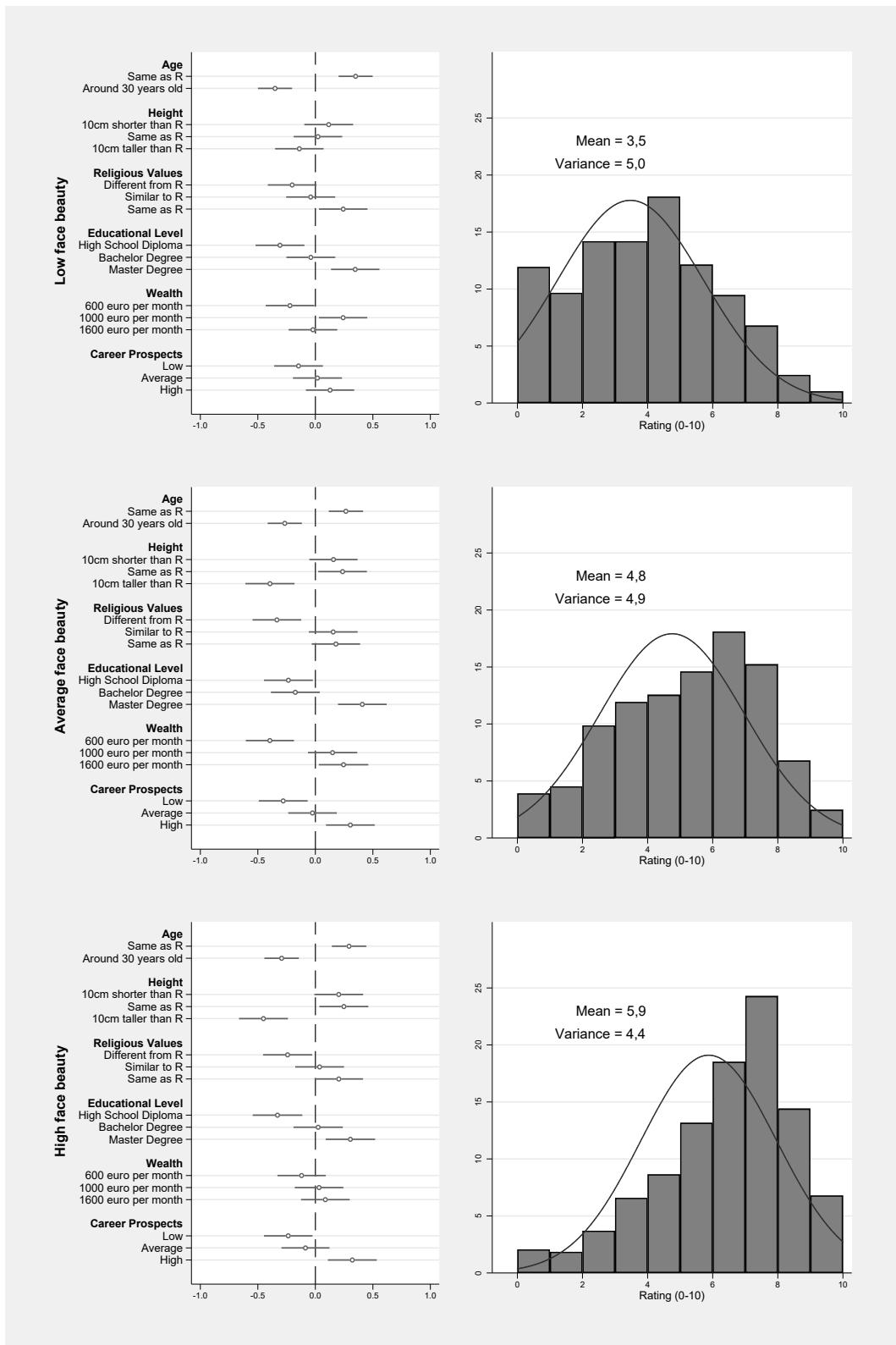
FIGURE 4.5. Estimates of the average causal effects of potential partners' dimensions on ratings assigned by male respondents, by facial beauty (95% confidence intervals).
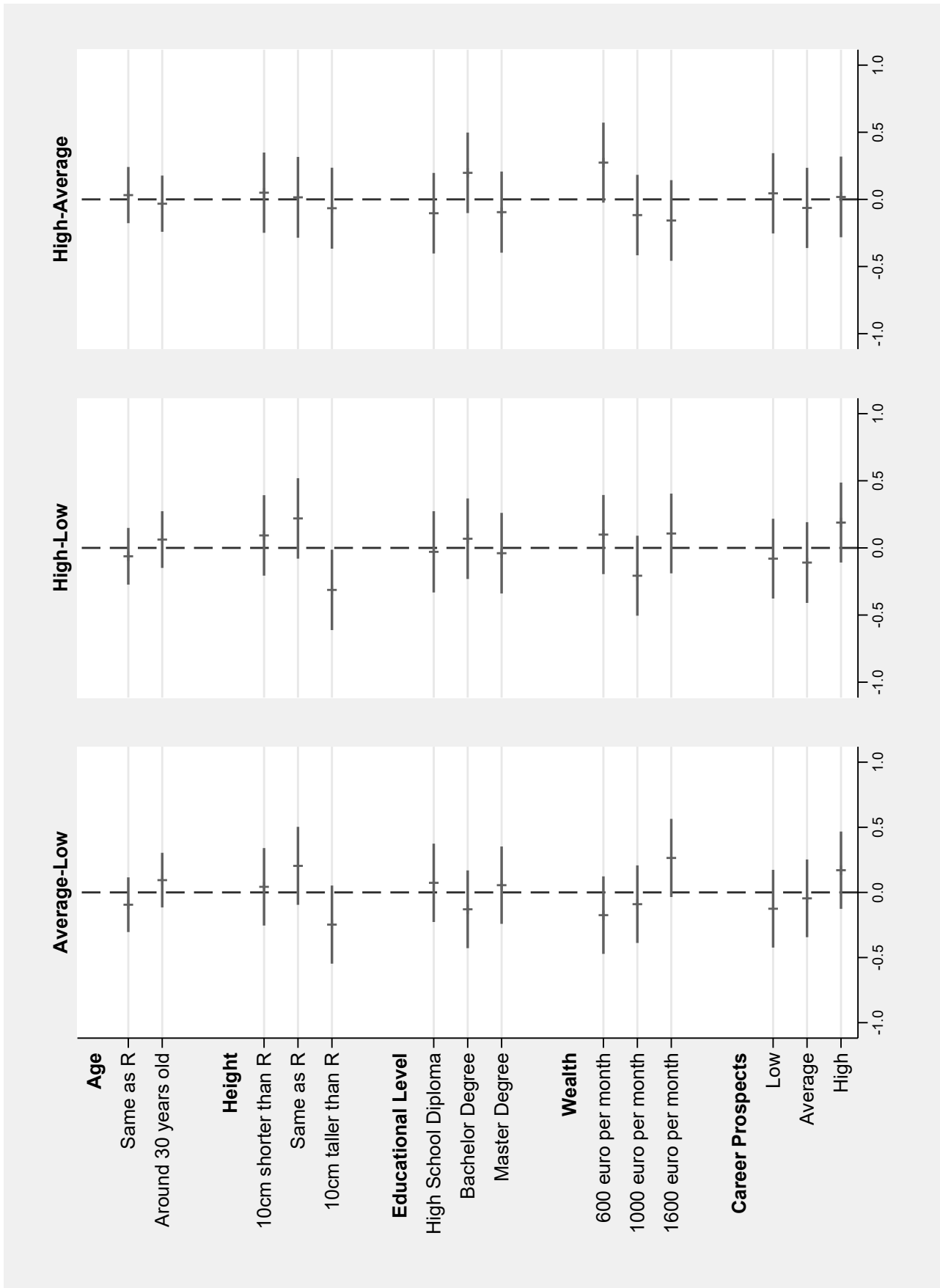
FIGURE 4.6. Estimates of differences of average causal effects between facial beauty level with 95% confidence intervals within ratings of men.

However, some differences can be noticed. The causal impacts of height dimensions are, on average, not significant when facial beauty is low but two of them become significant when facial beauty is high. The causal effects of being either 10 cm shorter than or as tall as respondents are identical even if, when these effects are conditioned by facial beauty, being 10 cm shorter than respondents is not statistically significant. Overall, the importance of height on male ratings seems to increase with facial beauty.

Moreover, the average causal impact of wealth levels decreases and loses its statistical significance from the lower level of facial beauty to the highest one, while the causal impact of career prospects increases with facial beauty.

Even if there are some differences in the impact with which the dimensions act on male ratings when conditioned by facial beauty, the overall differences in the causal impacts between the different levels of facial beauty are not statistically significant. In Figure 4.6, all the plotted differences of average causal impacts of the dimension traits, between each level and the previous one, cross the value zero on the x line, suggesting that interactions between facial beauty with all the other dimensions on male ratings are not statistically significant. Thus, the average causal effects of facial beauty and the other dimensions on male ratings are overall additive and independent.

Differences between face beauty level within ratings of women

On the right of Figure 4.7, the frequency distribution of ratings among each facial beauty level is reported. As for the male rating, the mean rating increases with facial beauty. Indeed, on average, women assigned a rating of 3 to potential partners' vignettes that displayed a low face beauty and a mean of 5.6 to those with a high facial beauty. In contrast to male ratings, the female ratings variance increases with facial beauty, suggesting that female ratings are more consistent when evaluating potential partners with faces that are not considered to be attractive.

On the left of Figure 4.7, the average causal impacts of the levels of the dimensions are displayed at each level of facial beauty. At first glance, we can notice that the overall impacts of the levels of the dimension increase with facial beauty. Indeed, both the distance of the dimension levels from the zero value on the x line, as well as the distance among levels of several dimensions, increases.

However, this does not hold for every dimension. On average, age levels have

a statistically significant causal effect on female ratings just among potential partners' vignettes with an average facial beauty.

Instead, the average causal effects of height, education and career prospects levels tend to increase with facial beauty. Specifically, those of education levels become statistically significant from the average facial beauty level, although it is already clear the importance ranking among the lower level of facial beauty. The average causal effects of height and career prospects strongly increase with facial beauty, suggesting that a potential partner's vignette with an attractive face has been evaluated with more attention compared to those with a more unattractive face. In other words, as potential partners' vignettes displayed an attractive face, women considered these former dimensions more closely.

Finally, the average causal effects of the levels of religious values and weight remain almost consistent across facial beauty levels. Interestingly, among vignettes with a low facial beauty, each average causal effect of wealth levels is statistically distinct from the other two, while the difference between having 1000 and 1600 euro becomes not statistically significant as facial beauty increases. Specifically, the average causal effect of the middle level of wealth is not statistically significant at any facial beauty level, but the difference from the lower level increases with facial beauty. In other words, as facial beauty increases women evaluated potential partners' vignettes with levels of 1000 and 1600 euros in a more similar way.

The statistical significance of differences in average causal impacts between facial beauty levels is shown in Figure 4.8 for each level. In line with these considerations, among female raters, facial beauty moderated the average effects of the levels of age ($p-value = 0.000$), height ($p-value = 0.001$) and career prospects ($p-value = 0.000$) in a statistically significant way. Thus, facial beauty has an interactive effect with age, height and career prospects on the average rating.

Differences within face beauty levels between ratings of men and women

Finally, I checked whether the differences of the average effects of dimension levels on male and female ratings vary within each facial beauty level. Graphs in Figure **??** show all the relevant information for this purpose. These report estimates of what ratings women assigned to vignettes compared to men, when each specific condition is present and within each level of facial beauty.
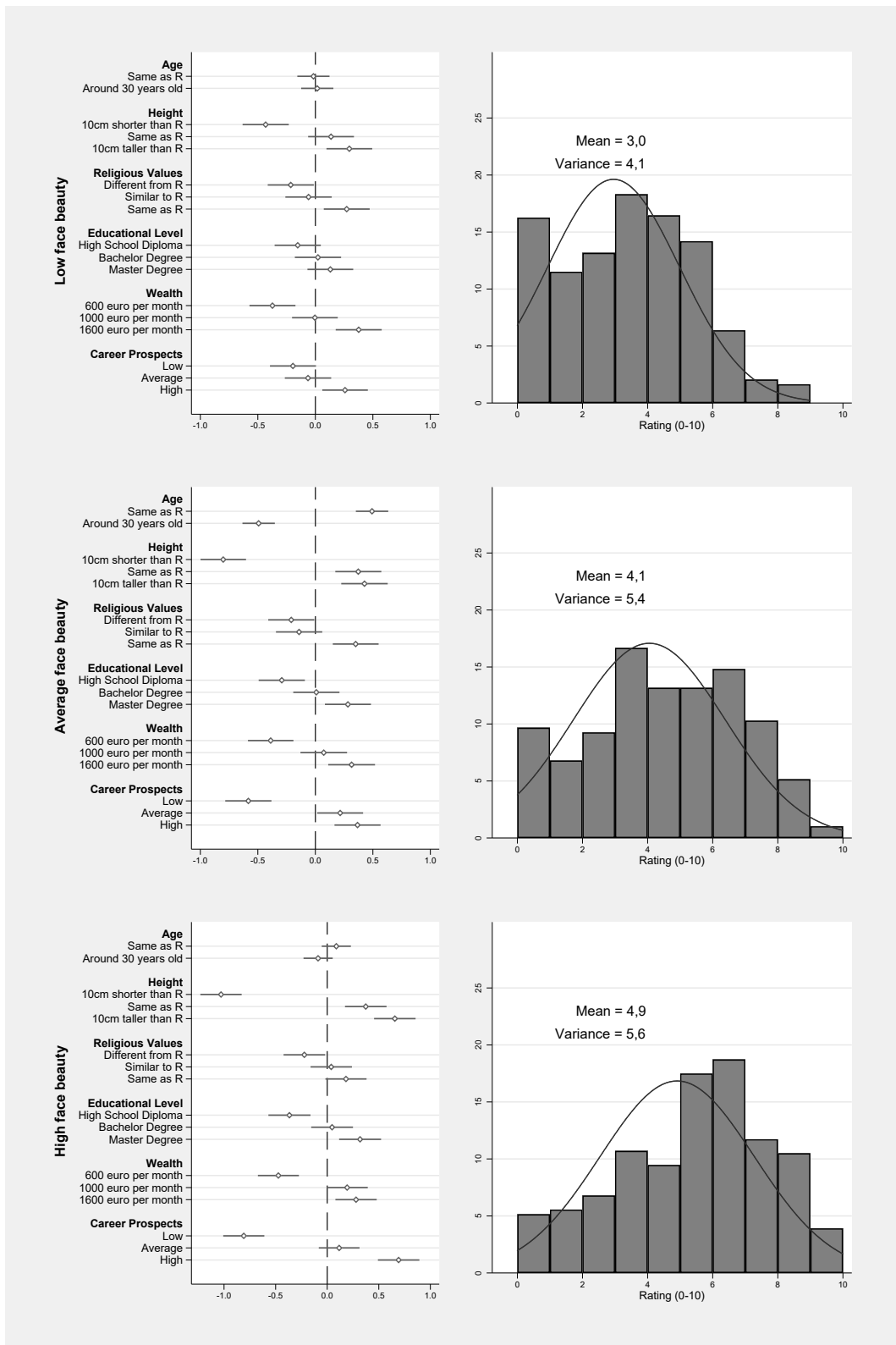
FIGURE 4.7. Estimates of the average causal effects of potential partners' dimensions on ratings assigned by female respondents, by facial beauty (95% confidence intervals).
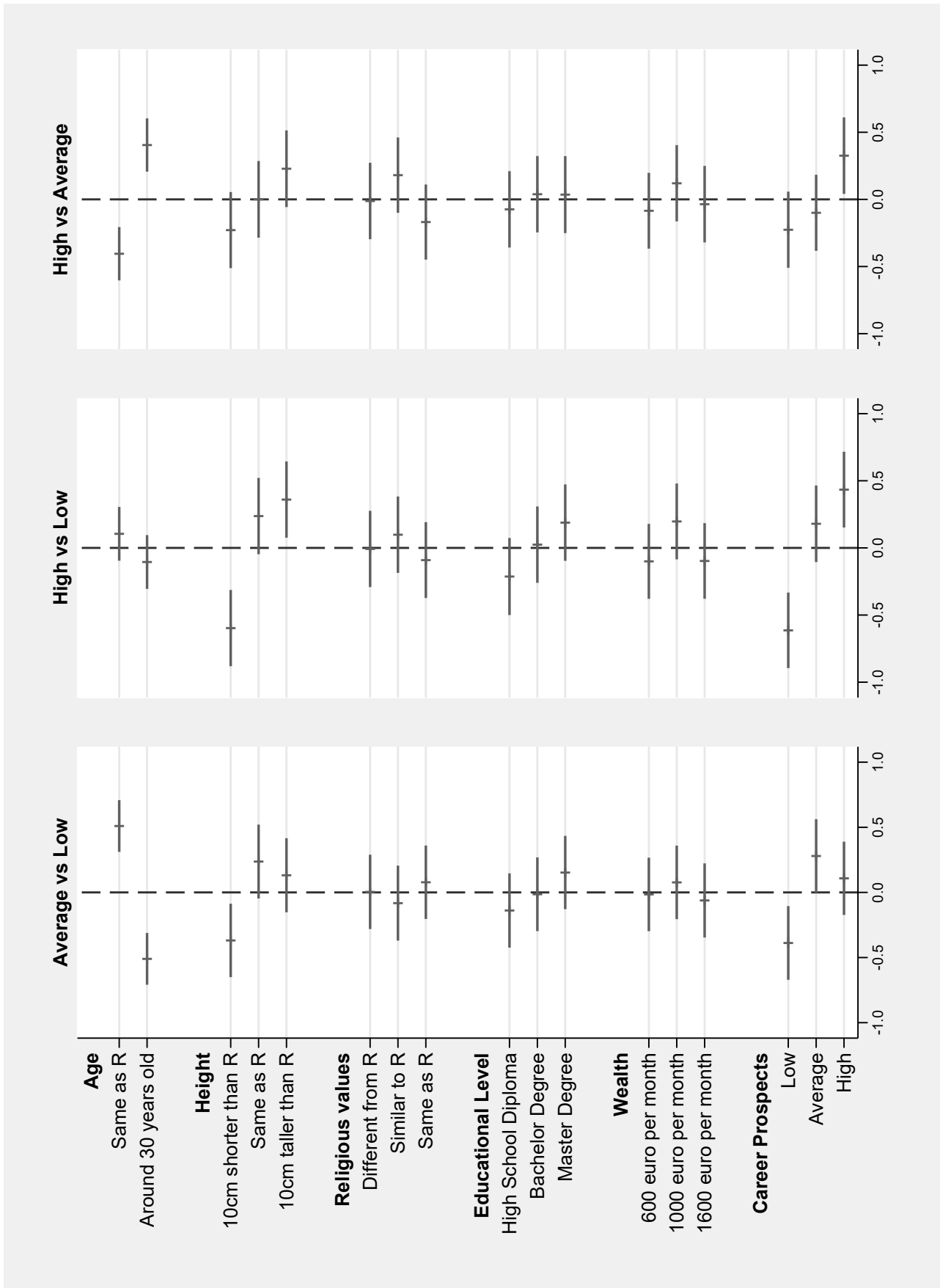
Figure 4.8. Estimates of differences of average causal effects between facial beauty level with 95% confidence intervals within ratings of women.

As expected from the previous analyses, there are statistically significant differences in the impacts of age levels. The average causal impact, on the average rating of women compared to that of men, of being the same age as the respondent is lower and statistically significant, whereas that of being around 30 years old is higher, when facial beauty is low or high. However, when facial beauty is at its average level, the difference switches.

Moreover, differences in the average causal effects of height levels increase with facial beauty, while those of religious values and education remain zero across all facial beauty levels. Interestingly, among vignettes with low facial beauty, women assigned on average 0.4 points more to vignettes with 1600 euro compared to men, while among vignettes with high facial beauty, they gave on average of almost 0.4 points less to vignettes with 600 euro compared to men. Finally, also the differences in the causal effects of career prospects levels increase with facial beauty. Among vignettes with high facial beauty, women gave those with low career prospects an average rating of almost 0.6 points less.

4.4   Discussion

Interestingly, ratings variances differ between categories by sex: a lower variance of rating for low-attractive men, comparing to both high-attractive men and low-attractive women variance, correspond to a lower variance of rating for high-attractive women comparing both low-attractive women and high-attractive men.

Overall, findings have shown that both men and women in the respondent sample tended to prefer socioeconomic cues in a potential partner or, at least, not disvalue them. Also, they positively evaluated, on average, potential partners who displayed similar characteristics to them.

Specifically, both men and women have shown a strong preference for potential partners' vignettes with attractive facial beauty. Moreover, women negatively judged potential partners who were shorter, and positively evaluated those who were as tall as, or taller than, themselves. Men's height preferences are the opposite to those of women. However, the importance of a potential partner's height is less relevant in comparison to women. Also, the average causal effects of height levels on male ratings do not suggest a male avoidance of tall women given the positive and statistically significant effect of the middle level (same height as respondent) that is identical to the first level (10 cm
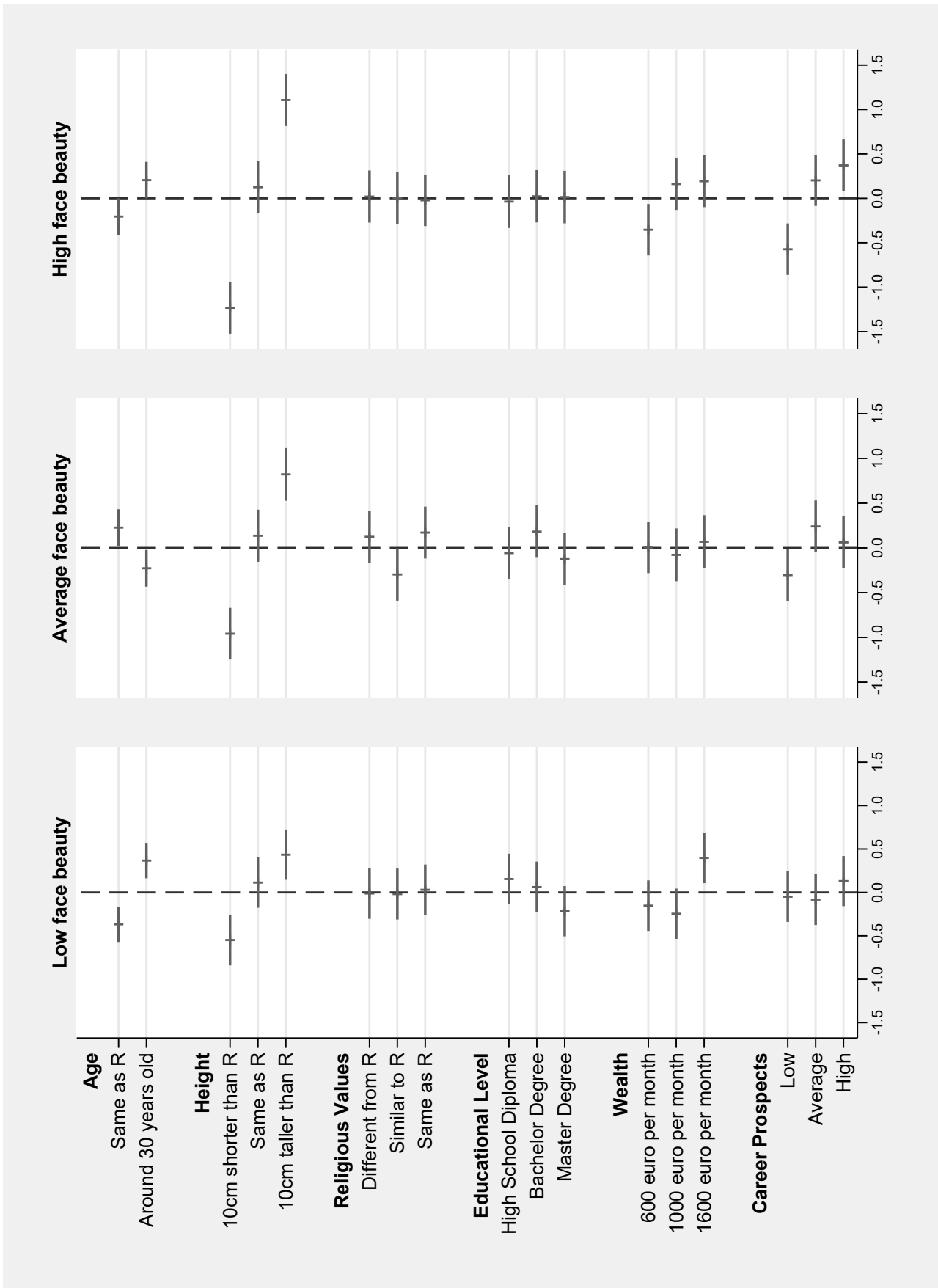
FIGURE 4.9. Estimates of differences of average causal between women and men within facial beauty levels (95% confidence intervals).

shorter). Overall, this may suggest that men tend to prefer women who are shorter to themselves but those who are shorter compared to other women [4]. Furthermore, both men and women negatively judged potential partners' vignettes with a wealth of 600 euro per month and low career prospects compared to those with more money available and higher career prospects.

Thus, the average causal effects within each dimension related to social status have the expected indications suggesting that respondents have preferences that maximise, or at least do not worsen, their socioeconomic status. Thus, overall, the competition hypothesis (H1) is confirmed.

Moreover, respondents preferred potential partners with the same age as them, as compared to those who were older than them, and also those with the same religious values and the same education level as them. Therefore, the matching hypothesis (H2) is also confirmed.

However, there are some differences between the average causal impacts of the dimensions on male and female ratings. First of all, women assigned lower ratings to the vignettes compared to men. Indeed, the difference between the mean of ratings across the two groups is statistically significant. Also, women were shown to consider, overall, more dimensions when evaluating a potential partner. Female evaluations of the vignettes appear to be more strongly directed to disvalue the lower levels and value the higher levels compared to male evaluations. Moreover, vignette dimensions interact with the dimension "facial beauty" showing a multiplicative effect of "positive" characteristics of a potential partner, but not a strong tendency to trade one for another. Overall, this experiment confirms that women are more selective in evaluating a potential partner compared to men. Therefore, H3 is confirmed.

As previously stated, even if this experiment did not test if men prefer women who are tall, average height or short– among women rather than compared to men, results have shown that men did not consider height as women did when evaluating the vignettes. This is in line with previous evidence. Indeed, height had a less strong impact on the average rating of men compared to women. Thus, H4 is confirmed.

Regarding facial beauty, results have shown a statistically significant difference just between the average causal effects of high facial beauty. Indeed, male respondents rated profiles with very attractive faces a little higher than the

---

[4] Perhaps, by expressing height levels in comparison to the reference group (thus, among women and among men), rather than in comparison to the respondent would have lead to a better evaluation of height as a cue for socioeconomic status.

female respondents did. However, the strongest causal effects on the average rating were those of facial beauty for women too, and the joint interaction between sex and facial beauty was not statistically significant. Thus, H5 cannot be confirmed.

However, it is well worth noting that the variance of ratings increased with facial beauty when vignettes were evaluated by women and decreased with facial beauty when the vignettes were judged by men. Thus, women's ratings were less consistent among highly attractive men, while men's ratings were less consistent among less attractive women. This confirms that male physical attractiveness is a more complex and multidimensional factor compared to female beauty.

Finally, results have shown that the interactions between sex and the two socioeconomic dimensions (wealth and career prospects) are statistically significant. Indeed, women tended to consider these traits when evaluating a vignette more than men. Thus, H6 is confirmed. However, we must observe that men did not disvalue cues of social status in women. Indeed, they assigned lower ratings to vignettes with low wealth and low career prospects. They neither increased or decreased their ratings because of the presence of higher wealth levels; and they placed less value than women on career prospects.

As explanatory analysis, I included the interaction between facial beauty and the other vignette dimensions in the model to investigate whether their impacts varied across facial beauty levels, within each sex and between sexes. Also, the aim was to understand if facial beauty moderates the causal effects of socioeconomic traits.

Findings have shown that the joint interactions included are not statistically significant. However, we can notice that as facial beauty increases, the importance of wealth decreases in men and becomes insignificant. For women, instead, the effect of wealth remains almost constant across facial beauty levels. A trade-off mechanism may be in action for both men and women. Men valued wealth when facial beauty was low, but when it was high, they seemed to not care about wealth anymore. Similarly, women valued wealth when facial beauty was low, even if more strongly than men and, as facial beauty increased, they rated more highly the middle level of wealth as they balanced the presence of facial beauty.

We must also note that when vignettes had an average facial beauty, differences between men and women almost disappear, suggesting that the role of physical appearance is critical in delineating the differences in mating

preferences between men and women. Also, it can be stated that physical attractiveness may have a different impact on men and women's mating preferences when it is high. In other words, women manifest more strongly their "necessity" for resources than men when they are evaluating handsome men. Indeed, the average effects of height, education and career prospects increased with facial beauty.

Chapter 5

The variability in mating preferences

Are social status and cultural values associated with mating preferences?

5.1 An overview

In this chapter, I present the analysis of the variability in mating preferences associated with respondents' social status and cultural values. These two sources of variability have been measured with two indicators each. For social status, I used as indicators the educational level of the respondent's father and the respondent's height. While for indicators of cultural values I used the respondent's religiosity and the respondent's score on an index of "male supremacy" constructed through a principal component analysis on a set of items related to gender ideology.

For each source of variability, I fitted a separate model within each sex, which were almost identical to the one used for the first analysis, apart from the absence of the interaction between facial beauty and the other vignette dimensions. This exclusion is due to the fact that vignette dimensions are not perfectly orthogonal and the distribution of the levels among each dimension is not perfectly rectangular, because the evaluated vignettes, in each subsample, are not the total of the vignette population but fractions of it. Therefore, the main difficulty of this part of the analysis was to be actually able to estimate the average effects of the vignette dimensions and the differences between the two groups, relative to each source of variability within each sex.
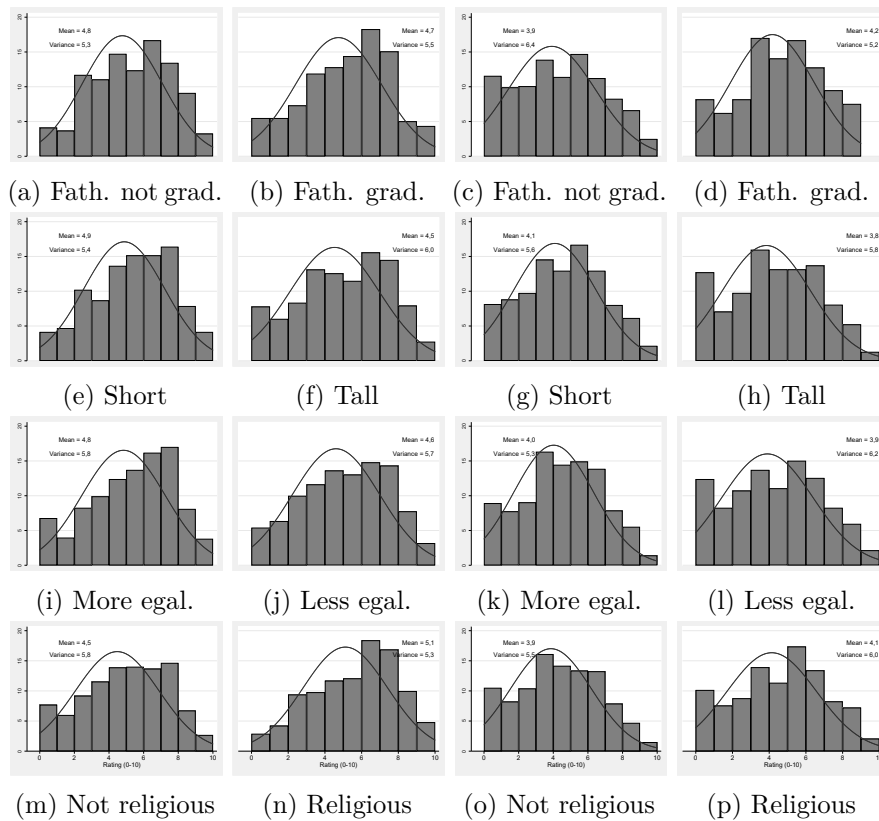
FIGURE 5.1. Percentage frequency distributions of mating desirability ratings assigned by respondents divided in different groups with four different variables. The two columns on the left refer to male respondents; those on the right refer to female respondents.

Even if some evidence is presented, we must note that most of it is uncertain and more exploratory than definitive. Indeed, the first aim of this study was to investigate the mating preferences of men and women among a homogamous population of highly educated young individuals, in a specific age range, enrolled in the same university. Thus, this last chapter has the objective of testing hypotheses (H7 and H8) on the potential variability of mating preferences within sexes but with particular caution about the conclusions.

In the second section, I report the process with which the subsamples for comparison within each sex have been selected. First, I explain how I have used the respondent's father and the respondent's height to separate male and female respondents into two comparable subsamples. Second, I report the principal component analysis conducted to estimate the "male supremacy score". In reference to this analysis, I explain different issues of the data collected with the battery of items and propose a solution. Then, I show how I separated

female and male respondents first in consideration of this male supremacy score and, after, their religiosity level.

Finally, for each subsample of respondents, I reported the control of the quality of vignette data in Appendix C. Thus, for each fraction of the assessed vignettes, I prove that the requirements of the approximate rectangular frequency distribution of each level within each dimension, and orthogonality between the dimensions, are satisfied within each vignette subgroups.

Then, in the third section, I evaluate the eight fitted models by reporting the frequency distribution of the mating desirability rating within each subsample of respondents. Also, I report and discuss the measure of the variance explained by the structural component for each subsample of respondents.

In the fourth section, I present the analysis of the mating preferences variability of respondents according to the two measures of socioeconomic status, first within male respondents and, secondly, within female respondents. Then, in the fifth section, I report the analysis of the mating preference variability of respondents, first within the male group and then within the female group, that is associated with cultural values.

Finally, in the last section, I discuss the findings.

5.2   Selection of the subsamples

5.2.1   Social status indicators

An individual's social status can be measured in several ways. One of these measures is the father's educational level. Given that education is associated with occupational status, an individual with a father who has graduated from university will come from a higher socioeconomic background and have a higher earning potential compared to an individual who has a father who did not graduate.

Figure 5.2 shows the frequency distribution of fathers' educational level within the respondent sample by sex. To obtain two subsamples – within each sex – that were big enough to permit unbiased estimations of the dimensions' impacts and, at the same time, that were different enough to account for variability in this trait, respondents have been divided between those with a father who graduated and those with a father who did not achieve more than a professional diploma. Thus, respondents with a father who obtained a high school diploma have been excluded from of the analysis. As a consequence, the
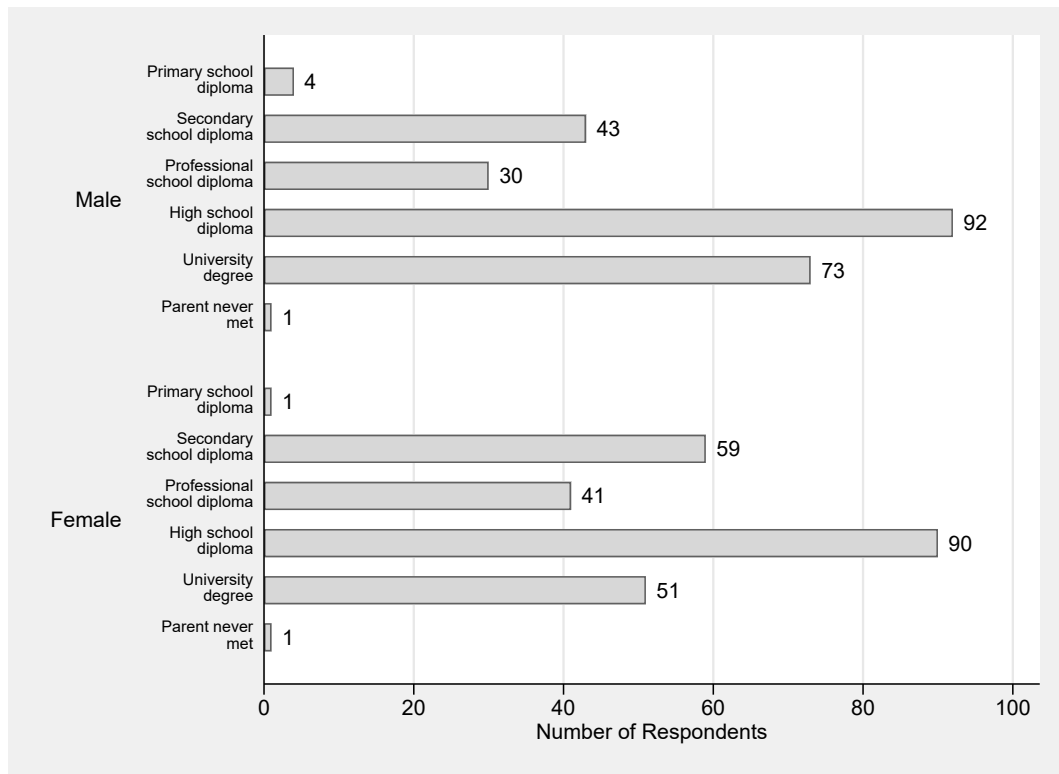
Figure 5.2. Father's educational level by sex

final subsamples divided by sex included, within men, 77 respondents with a not graduated father who had not graduated and 73 respondents with a father who had graduated; while, within women, the subsamples were respectively 101 and 51.

All four fractions of vignettes evaluated by these four subsamples of respondents satisfy the requirements of the factorial experimental design. Thus, levels among dimensions have an approximately rectangular distribution, and the vignette dimensions are approximately orthogonal. The frequency distribution tables and the correlation tables can be found in Appendix C.

As reported in Chapter 2, biological traits are also associated with individual social status. Evidence has shown that height has a positive association with educational attainment. In line with this, in section X, it has been demonstrated that the distribution of height in the sample of this study matches that of the target population, that, in turn, has a statistically significant different mean when compared to individuals with lower educational attainment. Moreover, evidence has shown that height is associated with occupational prestige and that tall people are considered to be more successful and dominant.

(a) Male height   (b) Female height
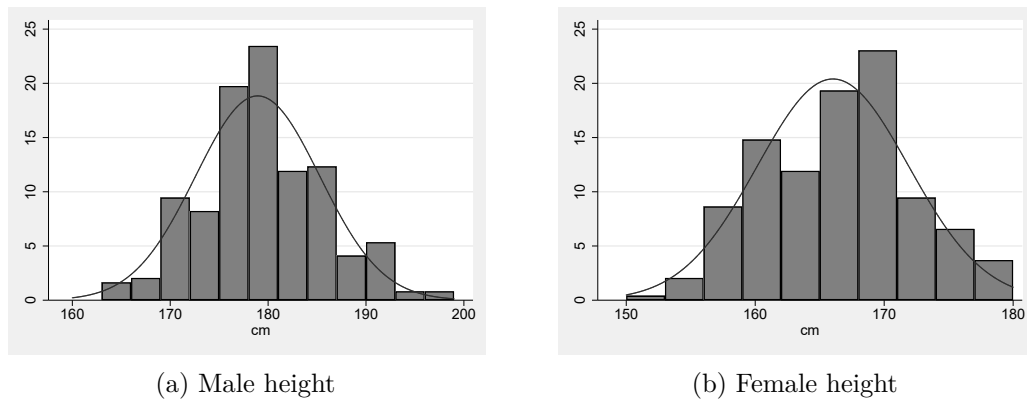
FIGURE 5.3. Distribution of height by sex

Thus, taking all this into account, as well as the need for the consideration of biological factors from a sociological standpoint, it is well worth testing if height is associated with mating preferences because it is a socioeconomic cue. In the empirical literature on mating preferences, respondents' height is generally included to evaluate height preferences. In this study, the aim is different. Thus, instead of investigating the association of height preferences when considering the respondents' height on a continuum, I divided the respondent sample into two groups within each sex. In so doing, I assume that shorter people have a lower status compared to taller people.

Figure 5.3 shows the frequency distribution of height in the respondent sample by sex. Both curves are normally distributed. The male height curve of distribution is slightly asymmetrical to the right, while the female curve is more symmetrical.

To select two subsamples within each sex, I standardised the variable of height and cut the distribution on the mean. The final subsamples were formed by 121 below-average and 122 above-average men and, respectively, 125 and 118 women.

Also, in this case, all four fractions of vignettes evaluated by these four subsamples of respondents satisfy the requirements of an approximately rectangular distribution of levels among dimensions and an approximate orthogonality of the vignette dimensions (Tables are reported in Appendix C).

5.2.2 Cultural values

From a social perspective, differences in female and male attitudes and preferences have often been associated with traditional gender roles, in which

men work in the labour force, while women take care of the home and the children. The initial aim of this study was to measure gender ideology following the analytical strategy implemented by Knight and Brinton (2017). The authors performed a latent class analysis on the data of a set of items from the European Values Survey and the World Value Survey. They argued that gender ideology is formed by several value dimensions and that associating gender egalitarianism with gender symmetrical attitudes and values may be misleading. Indeed, they found that the latent construct of gender ideology is categorical instead of on a continuum. From their perspective, rather than a cultural process from a traditional gender culture to a liberal gender culture, in which gender roles moved from being asymmetrical to being symmetrical, contemporary society may witness a more fragmented constellation of gender egalitarian cultures. Among these, different values regarding gender roles, personal fulfilment and attitudes within families and society overlap and interact differently. Indeed, four latent classes emerged from their analysis: three of them were egalitarian, and one was not egalitarian in terms of women and men's rights and duties.

Table 5.1. List of items on gender ideology

Name of variables	Items
v_1	A pre-school child is likely to suffer if his or her mother works.
v_2	Being a housewife is just as fulfilling as working for pay.
v_3	Both the husband and wife should contribute to household income.
v_4	In general, fathers are as well suited to looking after their children as mothers.
v_5	Men should take as much responsibility as women for the home and children.
v_6	On the whole, men make better political leaders than women do.
v_7	Having a job is the best way for a woman to be an independent person.
v_8	A job is alright but what most women really want is a home and children.
v_9	Homosexual couples should be able to adopt children.
v_10	If a woman earns more money than her husband, it's almost certain to cause problems.
v_11	A child needs a home with a father and mother.

Thus, following Knight and Brinton (2017), I have selected items, reported in Table 5.1, which express different dimensions of gender ideology, such as the "natural" need for women to be mothers (i.e. item numbers 1 and 8), egalitarianism in the labour force (i.e. item numbers 3 and 7), and the supremacy of the traditional family (i.e. item numbers 9 and 11). However, I have unfortunately underestimated the fact that the respondent population of this study is not only homogeneous in terms of being gender egalitarian. Respondents' age and educational level, as well as sample size, lead to difficulties in identifying different cultural classes of egalitarianism. Thus, a latent class analysis was not the right analytical tool for investigating respondents' values.

Additionally, the average interitem correlation is equal to 0.17 and the Cronbach's alpha is 0.69, as reported in Table 5.2. Overall, these measures are both low. This may be due to two factors. First, these items may no longer be good measures of gender ideology. Second, by asking respondents to express their agreement (or disagreement) with these items at the end of the survey may have led to biased responses. Specifically, respondents may have given less concentration to their answers as the survey was at its end and they had also just evaluated the potential partner's vignettes.

TABLE 5.2. Add caption

Obs	Sign	item-test correlation	item-rest correlation	interitem correlation	alpha
486	+	0.4299	0.2628	0.1764	0.6817
486	+	0.3897	0.2181	0.1813	0.6889
486	-	0.4475	0.2827	0.1743	0.6785
486	-	0.5057	0.3494	0.1673	0.6676
486	-	0.6199	0.4857	0.1535	0.6445
486	+	0.5546	0.4069	0.1614	0.658
486	-	0.3864	0.2143	0.1817	0.6894
486	+	0.5029	0.3462	0.1676	0.6682
486	-	0.6268	0.4942	0.1526	0.643
486	+	0.3661	0.1921	0.1841	0.6929
486	+	0.6066	0.4694	0.1551	0.6473
Test scale				0.1686	0.6905

In order to still attempt to conduct the analysis, I reduced the data collected with the battery of items with a principal component analysis (PCA) and used the values of the first component to identify two groups of respondents – those with a more traditional gender outlook and those with a more liberal gender outlook.

From the PCA, three principal components have been estimated with an eigenvalue higher than 1, as shown by the screen plot in Figure 5.4. However, these components explained all together only 50% of the variance and more than half of it is explained by the first component alone. Table 5.3 report the loadings (i.e. correlations between the items and the components) higher than 0.3 for each of the three components after varimax rotation. The first component is negatively correlated with items 4 and 5 and positively associated with items 6 and 10. Thus, it can be argued that this component measures male
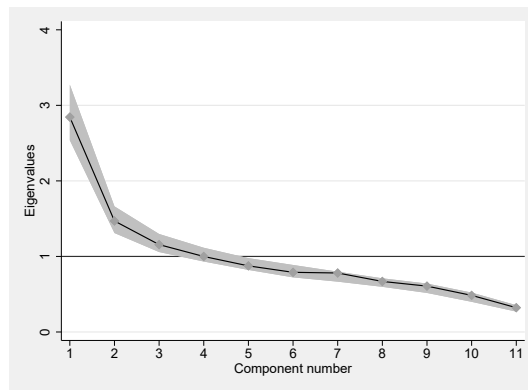
Figure 5.4. Screen plot

supremacy. The second component is correlated with items 9 and 11, while the third correlated with items 2, 3 and 7. Thus, the second component may measure traditional family supremacy and the third one women's independence from men. Items 1 and 8 are not correlated with any components. This makes sense considering that gender essentialism values have been found to be shared by both traditionalist and egalitarian individuals Knight and Brinton (2017).

Table 5.3. Add caption

Item	Comp1	Comp2	Comp3	Unexplained
v_1				0.847
v_2			-0.590	0.448
v_3			0.583	0.420
v_4	-0.475			0.574
v_5	-0.544			0.385
v_6	0.362			0.585
v_7			0.502	0.542
v_8				0.629
v_9		-0.617		0.262
v_10	0.470			0.631
v_11		0.662		0.207

Given that the first component alone explains more than half of the variance, I predicted the values for each respondent of this component. Figure 5.5 shows the frequency distribution of the male supremacy scores of respondents. As expected, the two curves are asymmetrical to the left as respondents overall are egalitarian. To investigate potential differences in their preferences related to this male supremacy score, I divided the respondent sample on the median
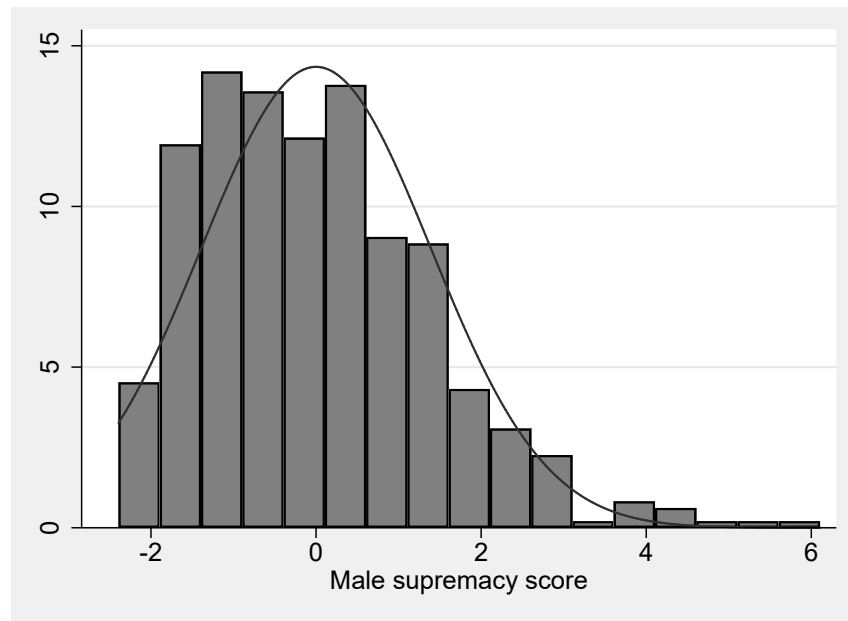
Figure 5.5. Distribution of male supremacy score

of the distribution. Thus, the final subsamples were formed by 106 "liberal" and 142 "conservative" male respondents and, respectively, 142 and 106 female respondents.

Among these four respondent subsamples, the fractions of the evaluated vignettes present an approximate rectangular frequency distribution of the levels of the dimensions and dimensions orthogonality, as shown by the tables in Appendix C.

To enhance our understanding of the role of cultural values in mating preferences, the religiosity of respondents' religiosity has also been taken into account. People care about sharing their values with their partners. Evidence has shown that, especially regarding religion, individuals privilege those who hold the same values as them (Furnham 2009). Also, religious endogamy is associated with fertility. More specifically, religious values may maximise individual reproductive success and social group growth, by enhancing cooperation within a social group and strengthening marital bonds (Fieder and Huber 2018). Indeed, religious values shape behaviour, lifestyle and children's education. In particular, mating behaviour is a target of religious doctrine. Being faithful and reproducing are common religious directives (Buss 2002). In line with this, evidence from the United States has shown that sexual behaviours are strong predictors of religious attendance (Weeden et al. 2008).
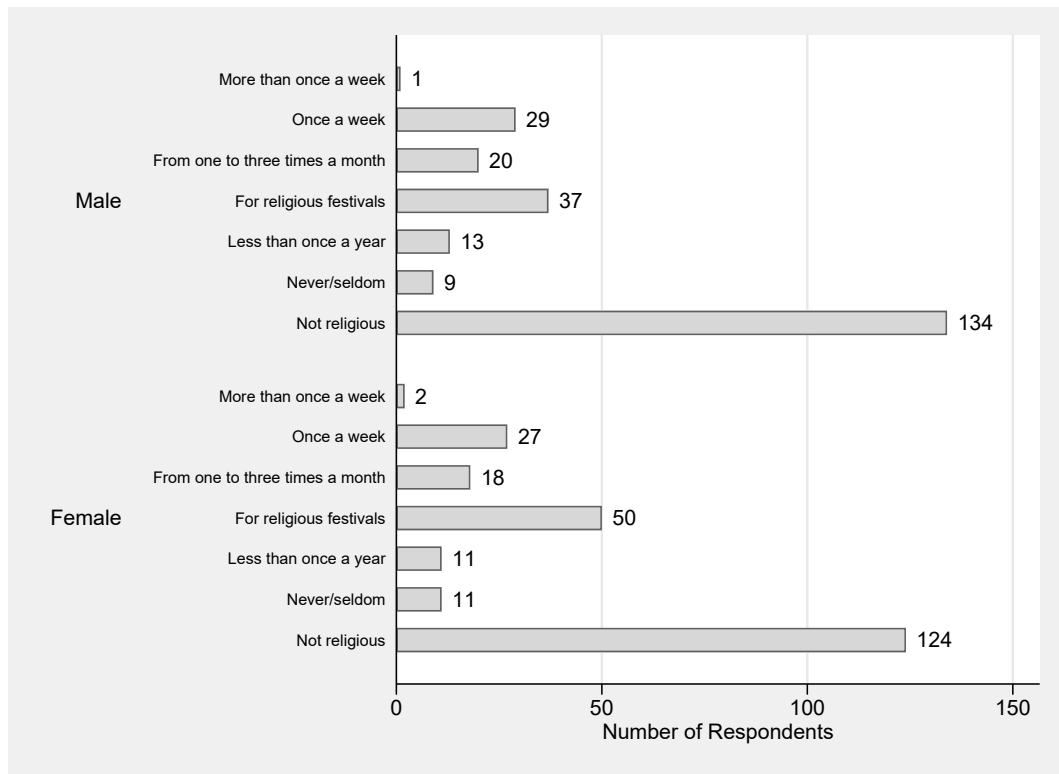
Figure 5.6. Attendance at religious services

Thus, individuals who are more religious may have stronger preferences for long-term relationships, in which they make high levels of familial investment. This may be associated with more traditional values regarding the role of women and men within a couple and, therefore, their preferences in choosing a romantic partner.

Figure 5.6 shows the frequency distribution of respondents' attendance at Catholic religious services. It also includes respondents who declare themselves not religious. To gather two comparable subsamples within each sex, I selected as not religious respondents who defined themselves as such, those who described themselves as religious but never attend religious services, and those who attend religious services less than once a year. All the others were considered to be religious. Thus, the final subsamples were formed by 156 not religious and 87 religious male respondents and, respectively, 146 and 97 female respondents.

A better selection of the subsamples would have implied not designating those who attend religious services only on religious festivals as "strongly" religious individuals. However, the fraction of evaluated vignettes from the religious respondent subsample was biased (i.e. the frequency distribution of

the levels among several vignette dimension was not rectangular). This was due to the small numerosity of the vignette fraction.

By including those who attend religious services only on religious festivals, the rectangular frequency distribution of the levels of the dimensions and the dimension orthogonality are approximately satisfied among all the four vignette fractions, as shown by the tables in Appendix C.

5.3 Estimation and evaluation of the models

To test the last two hypotheses, I estimated a multilevel model for each source of variability within each sex. Thus, the results of the eight models are reported in the following sections. As for the model fitted in the previous chapter, the random effects and the residuals are estimated on the first level separated for the two groups, while the fixed effect of each group on the second level.

In the eight multilevel models estimated, the structural component is formed by the seven vignette dimensions and the two-way interactions between the seven vignette dimensions and the group variable. Given the loss of statistical power associated with the decrease in the number of evaluated vignettes for each subsample of respondents, it is no longer possible to estimate interactions between vignette dimensions. Additionally, each of the eight models includes the two measures of the individual idiosyncratic component and two of the residual components, one for each group. Again, by fitting just one model, it is possible to straightforwardly estimate the differences in the average effect of each dimension on mating desirability ratings between the groups of evaluators.

The frequency distribution of the mating desirability rating, its mean and variance and the number of vignettes evaluated are reported in Figure 5.1 for all the subsamples. Table x reports the estimates of the variance of the individual idiosyncratic effects and of the residuals, as well as measures of the variance explained by each male respondent model; whereas by sex.

Overall, the proportion of the variance explained by the models is slightly higher compared to the between sexes model fitted for the previous analysis, in which it was around 23% for both sexes. The two male subsamples in which the structural component reaches the higher ability to explain the variance of the mating desirability rating are that of short respondents (27%) and that of religious respondents (26%). Likewise, for short and religious female ratings the

structural components explained around 26% of the variance, but the higher proportion of explained variance was reached among the respondents with a father who had graduated (28%). The estimates of the average effects on the mating desirability are reported with the same graph as for the previous analysis. Thus, the interpretations follow the same logic, explained in ?? . Likewise, the tables of the estimates are reported in Appendix C.

5.4   Mating preferences variation with respondents' social status

5.4.1   Male respondents

Figure 5.7 reports the estimates of the average effects of the vignette dimensions evaluated by male respondents with a father who had not graduated and those with a father who had graduated. By looking at the graph on the right, we notice that male respondents with a father who had graduated, evaluated potential partners who were 10cm shorter as more desirable, compared to those with a father who had not graduated. Indeed, the difference between the average effect of being 10 cm shorter is statistically significant: respondents with a father who had graduated gave, on average, 0.5 points more to vignettes with this trait compared to respondents with a father who had not graduated, who, in turn, did not considered this characteristic to be important in their evaluation of the vignettes. Indeed, they instead privileged potential partners with the same height as them, as compared to a shorter height.

Moreover, the two groups differ also in the importance they placed on the acquisition of a Master's degree. Respondents with a father who had graduated assigned almost 0.3 points less to vignettes that presented this characteristic, compared to those with a father who had not graduated.

No other differences between the average marginal effect on the average rating assigned by these two groups were statistically significant. However, we can observe that respondents with a father who had graduated tended to value wealth in potential partners less compared to respondents with a father who had not graduated. Indeed, the average effects of this dimension are more evident for the latter respondents: they evaluated as less desirable potential partners with 600 euro per month, while those with 1000 and those with 1600 euro per month were positively assessed, even if the average effects are not statistically
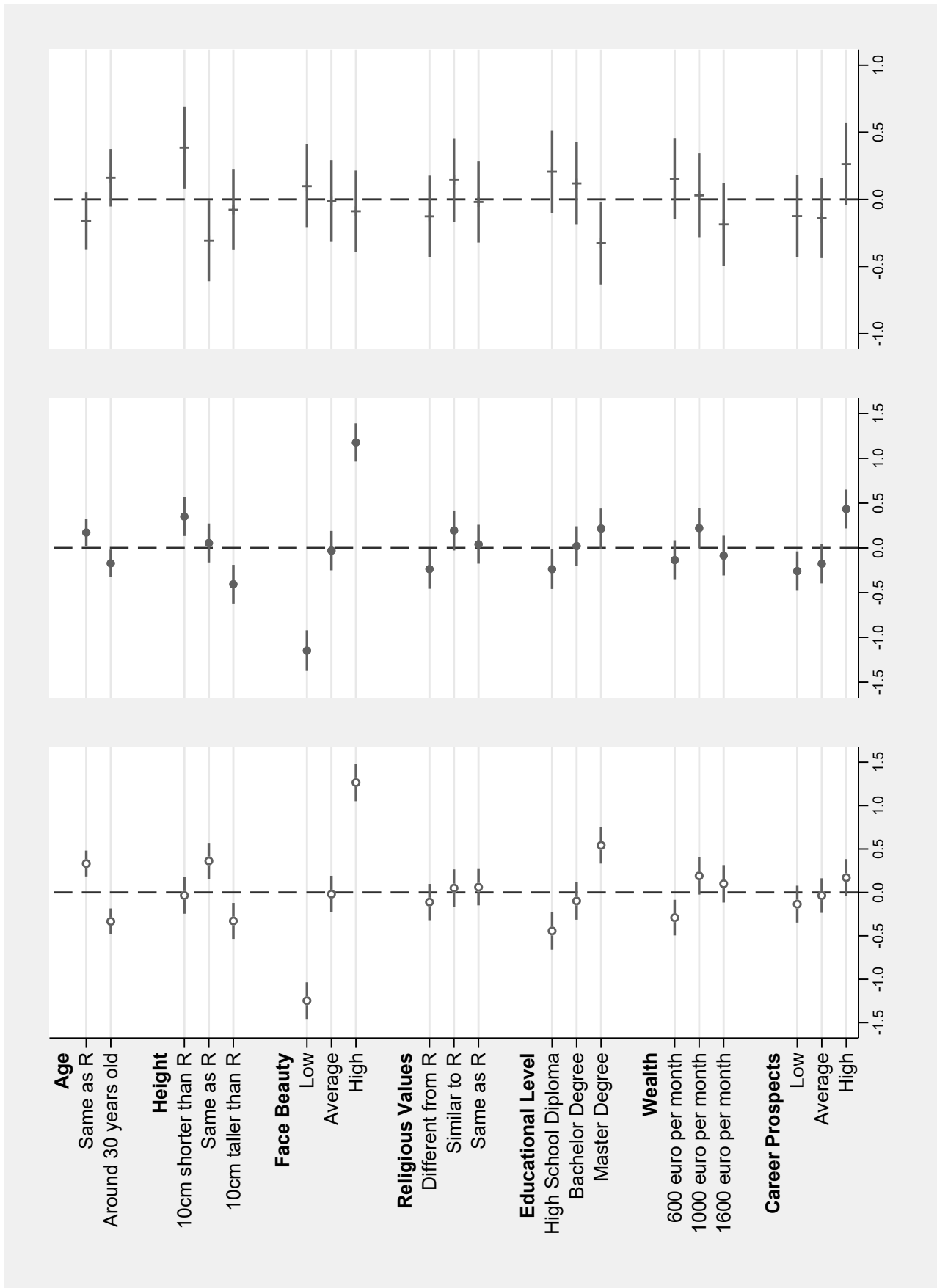
Figure 5.7. Estimates of the average effects of potential partners' dimensions by father's educational level within male respondents and differences between groups (with 95% confidence interval). From the left: *white*= not graduated; *black*= graduated; *dashes*= differences between groups (not graduated respondents as base category).
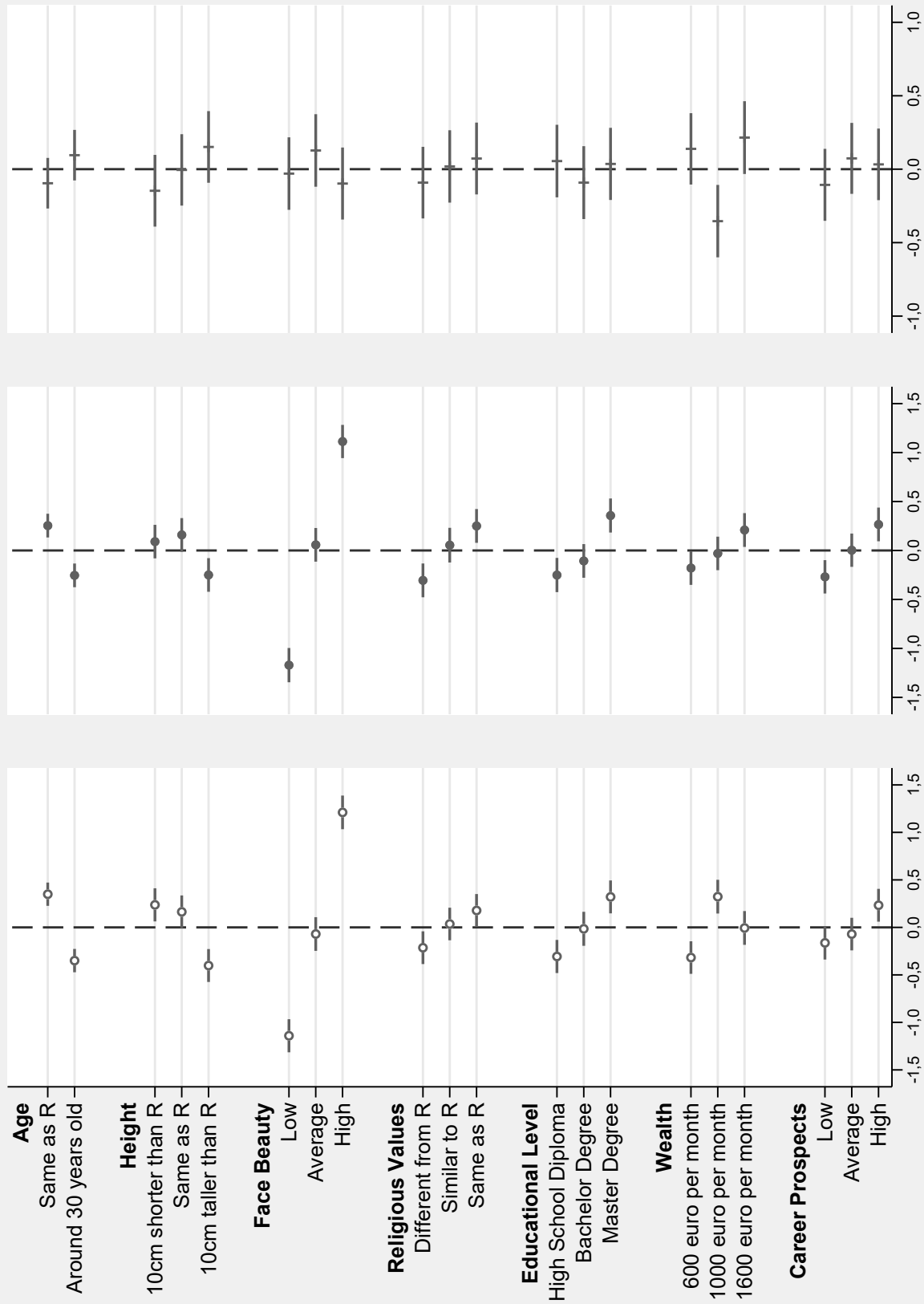
Figure 5.8. Estimates of the average effects of potential partners' dimensions by height within male respondents and differences between groups (with 95% confidence interval). From the left: *white*= below-average height respondents; *black*= above-average height respondents; *black*= differences between groups (below-average height respondents as base category).

significant. In contrast, respondents with a father who had graduated evaluated potential partners with 1000 euro per month positively, and did not change their ratings based on those with 600 or 1600 euro per month. Interestingly, when it comes to career prospects respondents with a father who had not graduated did not express a statistically significant preference between the levels of this dimension, while those with a father who had graduated did. However, differences between the average effects of the level of this dimension are not statistically significant between the two groups.

Figure 5.8 shows the estimates of the average effects of the vignettes evaluated by men of below-average height and men of above-average height (from now, respectively, short and tall). In this case, the only statistically significant difference between the two groups can be observed for the second level of wealth. Indeed, short male respondents registered, on average, a difference in their evaluations between potential partners with 600 euro per month and those with 1000 euro per month by evaluating as less desirable those with less money to a statistically significant level; while tall male respondents registered, on average, a difference in their evaluations between those with 600 euro and those with 1600 euro per month. It can also be stated that overall the dimension of wealth was more important for short men, as the distance between the statistically significant average effects of this dimension is wider in their case.

5.4.2   Female respondents

Figure 5.9 reports the estimates of the average effects of the vignettes evaluated by female respondents with a father who had not graduated and those with a father who had graduated. From the graph on the right, we can observe that any difference in the average effects of the levels of the vignette dimensions is significant between the two female groups. However, the direction of the differences of the average effects of age and those of career prospects may suggest that female respondents with a father who had graduated, placed more importance on the first one and less on the second, compared to those with a father who had not graduated. Indeed, for the latter respondents, the average effects of age on the rating they assigned to vignettes, are not statistically significant, while the distance between the average effects of career prospects is wider.

Figure 5.10 displays the estimates of the average effects of the dimensions of the vignettes rated by short and tall female respondents. We can notice
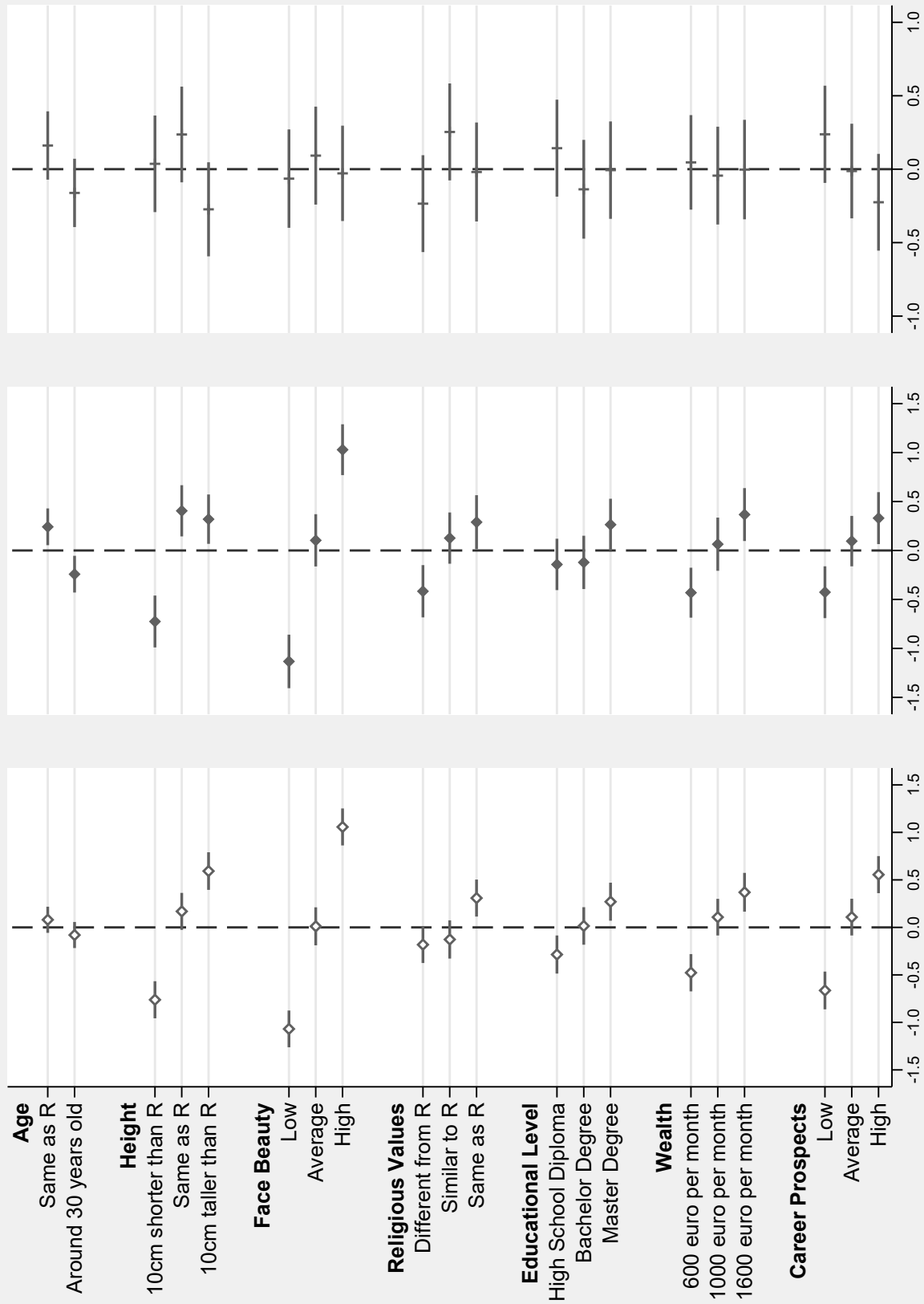
Figure 5.9. Estimates of the average effects of potential partners' dimensions by father's educational level within female respondents and differences between groups (with 95% confidence interval). From the left: *white*= not graduated; *black*= graduated; *dashes*= differences between groups (not graduated respondents as base category).
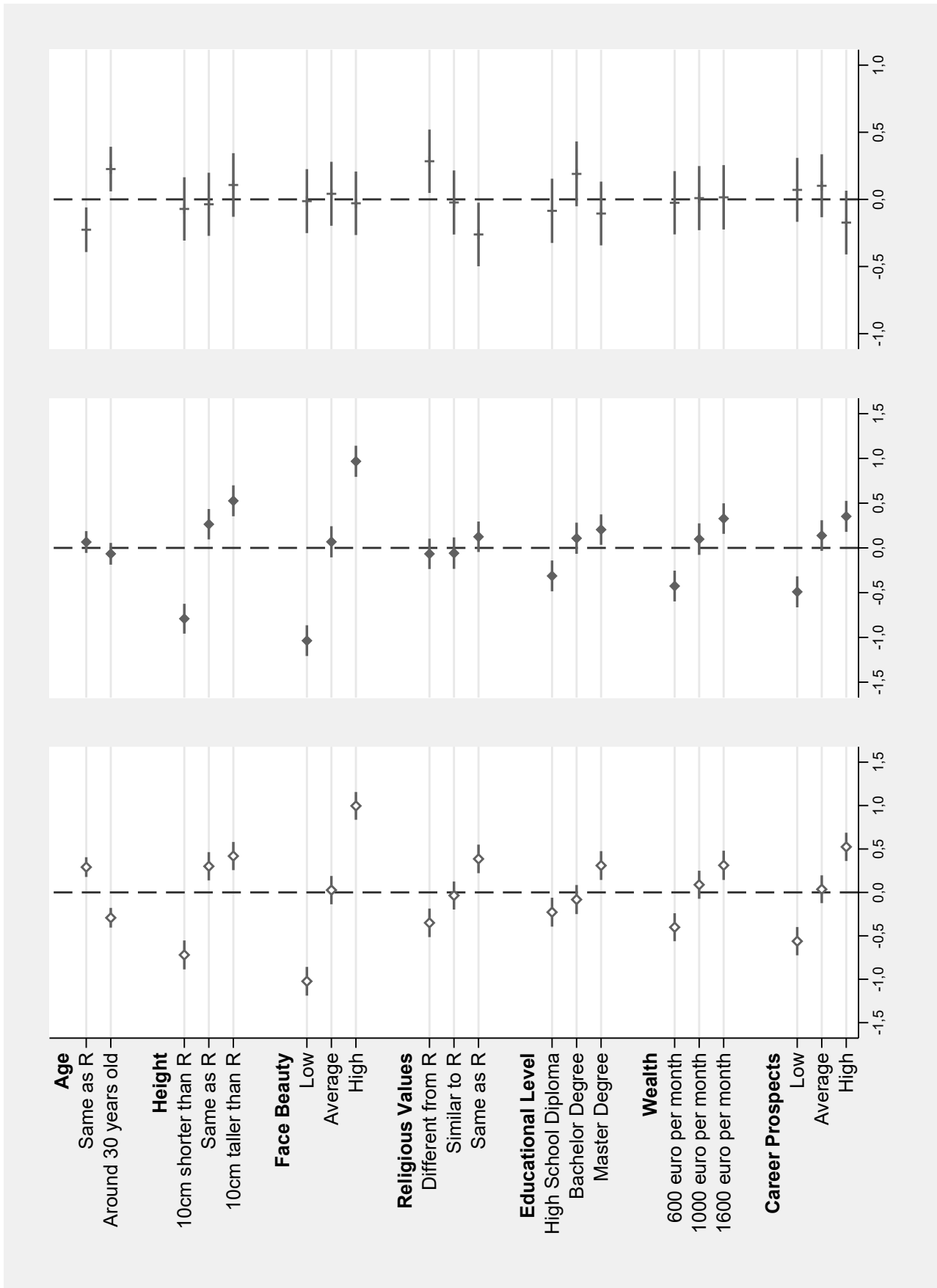
FIGURE 5.10. Estimates of the average effects of potential partners' dimensions by height within female respondents and differences between groups (with 95% confidence interval). From the left: *white*= below-average height respondents; *black*= above-average height respondents; *dashes*= differences between groups (below-average height respondents as base category).

that, on average, tall respondents did not consider age when evaluating the vignettes, as the average effects of this dimension are not statistically significant. On the contrary, short women did. Indeed, both differences are statistically significant. Likewise, tall respondents did not evaluate religious values as important, while short respondents did. Thus, also for religion the differences between the average effects of the first and the third levels are statistically significant. We can even observe that for short women the average impact of high career prospects in potential partner evaluations is statistically distinct from that of average career prospects, while this is not the case for tall women. However, even if there is a negative difference between the average effects of this level of career prospects, it is not statistically significant.

5.5   Mating preferences variation with respondents' cultural values

5.5.1   Male respondents

Figure 5.13 shows the estimates of the average effects of the levels of the dimensions for more egalitarian and less egalitarian male respondents; while Figure 5.11 reports those rated by not religious and religious male respondents. Overall, there are not statistically significant differences in the average effects of dimension levels between the first and the second group apart from one. Religious respondents evaluated potential partners who were 10 cm taller than the respondent as less desirable. Indeed, they gave, on average, 0.2 points less to these potential partners, as compared to the ratings given to them by respondents who were not religious. Also, the average effect of being 10 cm shorter than the respondent is statistically not significant when the raters are either not religious or more egalitarian; while, even if small, it is statistically significant and positive when the evaluators are religious or less egalitarian. We can also notice that the differences between the average effects of the levels of the dimensions of height, education and wealth may suggest that less egalitarian respondents evaluated taller, more educated and wealthier potential partners as less desirable compared to respondents who were more egalitarian. However, the differences in the average effects are not statistically significant.
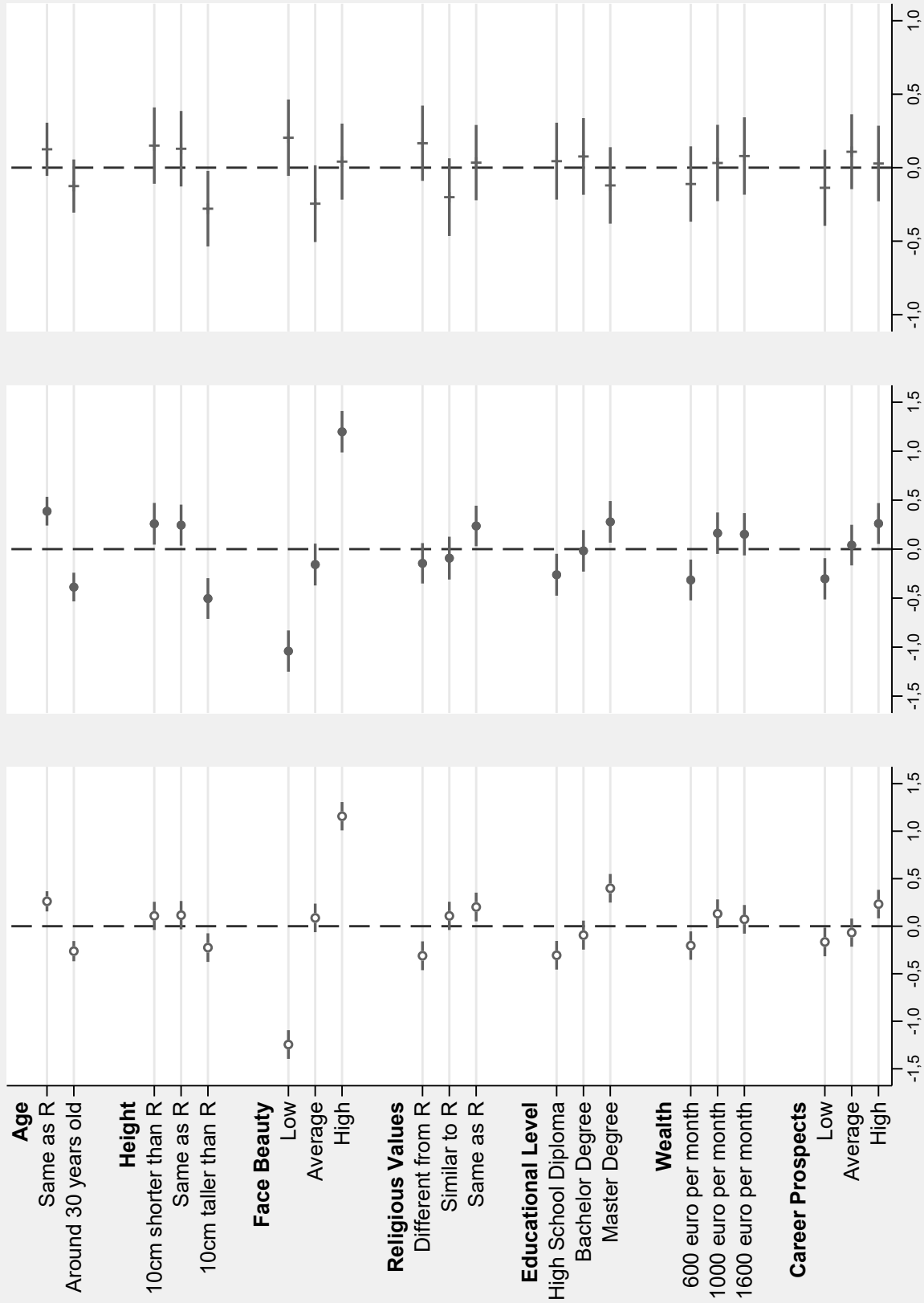
Figure 5.11. Estimates of the average effects of potential partners' dimensions by religiosity within male respondents and differences between groups (with 95% confidence interval). From the left: *white*= not religious; *black*= religious; *dashes*= differences between groups (not religious respondents as base category).
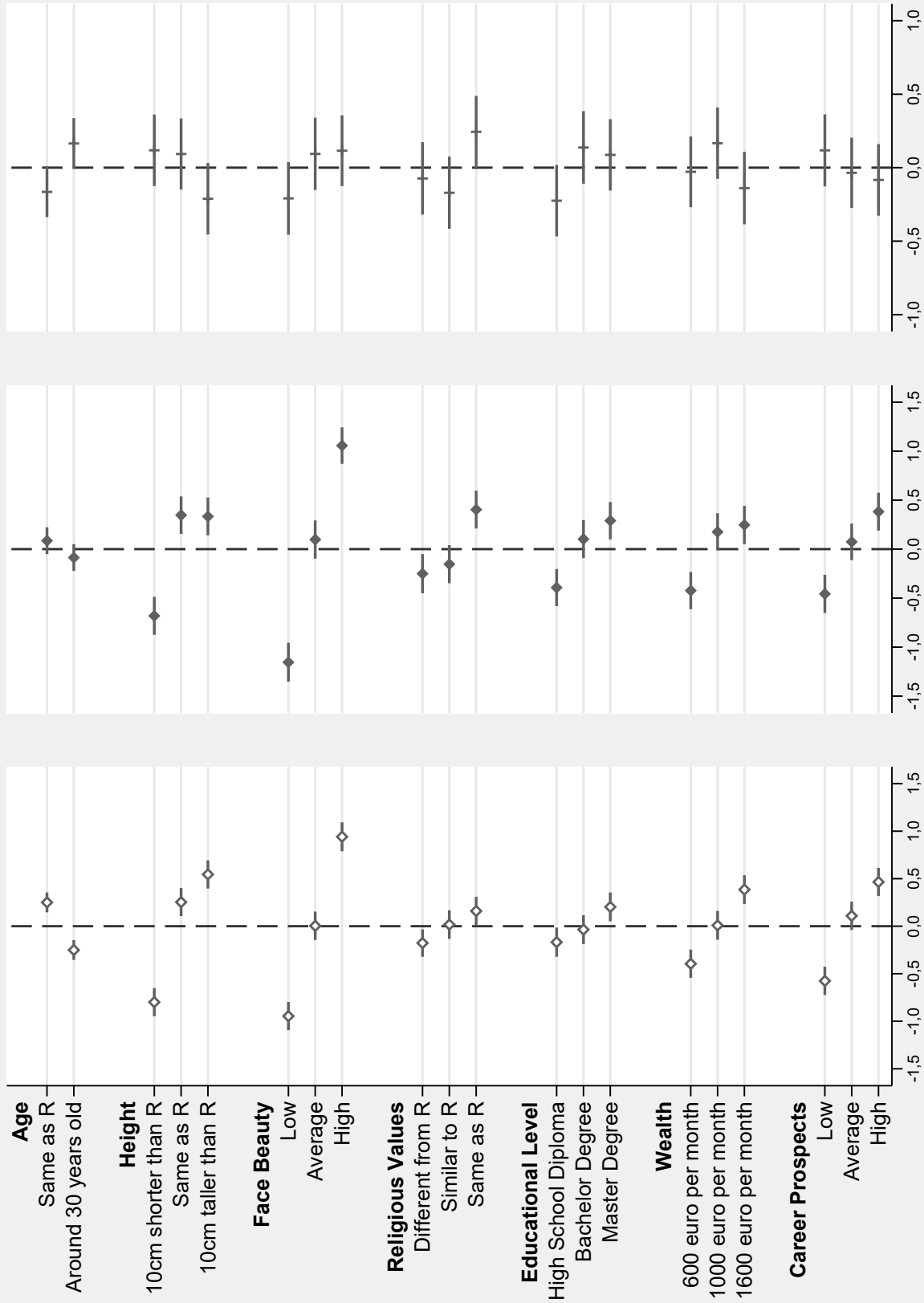
Figure 5.12. Estimates of the average effects of potential partners' dimensions by religiosity within female respondents and differences between groups (with 95% confidence interval). From the left: *white*= not religious; *black*= religious; *dashes*= differences between groups (not religious respondents as base category).

5.5.2   Female respondents

Figure 5.14 displays the average effects of the levels of the vignette dimensions on the average rating assigned by more egalitarian and less egalitarian female respondents. Any differences in the average effects between the two groups are statistically significant. We can just emphasise that for less egalitarian respondents, age and facial beauty seem more important in a potential partner than for more egalitarian respondents.

Figure 5.12 shows the average effects on the average rating given by not religious and religious female respondents. We can notice that religious respondents did not register a difference in their evaluations, on average, between potential partners of the same age and those that were 30 years old, while respondents who were not religious did. Indeed, the differences in the average effects of age levels are statistically significant between these two groups. Additionally, religious respondents evaluated, on average, potential partners with the same religious values as more desirable compared to the ratings given to these potential partners by respondents who were not religious. Moreover, we can observe that being 10 cm taller than the respondent is less critical for religious respondents compared to those who were not religious, but the difference of the average effects is not statistically significant. Finally, religious respondents negatively evaluated a low educational level, while they evaluated as less important a high level of wealth compared to respondents who were not religious. However, these differences are not statistically significant.

5.6   Discussion

Overall, the results of these analyses are quite uncertain because within-sex differences in mating preferences, according to the four sources of variability under investigation, are very small and in most cases not statistically significant. However, some evidence suggests that both socioeconomic resources and cultural values may play a role in shaping mating preferences, at least for men.

Among male respondents, I found some evidence of what was hypothesised in H7, namely that as an individual's social status increases socioeconomic resources in a partner are less important. Indeed, respondents with a father who had graduated cared less about educational level and wealth when evaluating the vignettes. However, we must observe that the only statistically significant difference is demonstrated with regard to the average effect of Master's degrees,
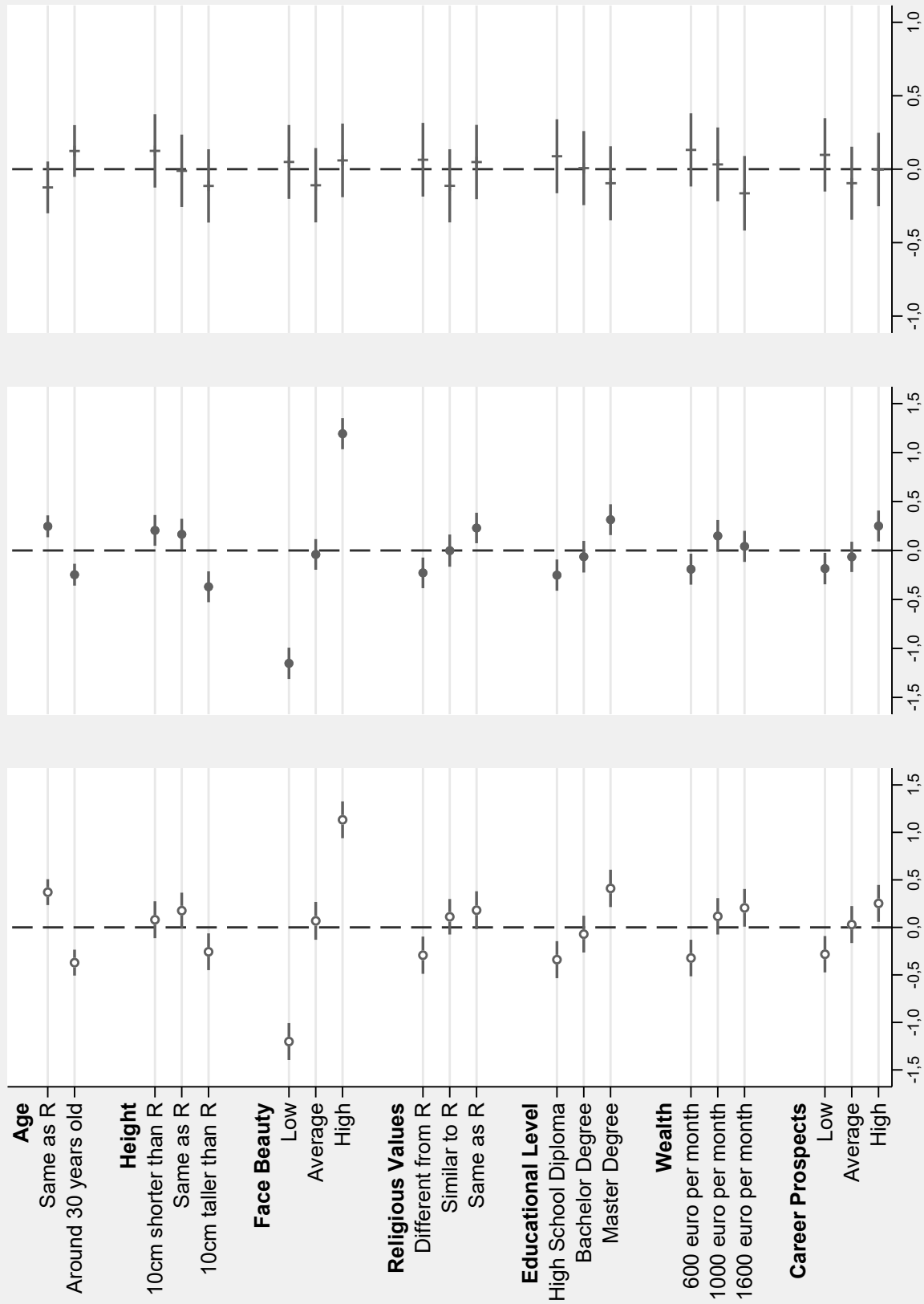
FIGURE 5.13. Estimates of the average effects of potential partners' dimensions by male supremacy score within female respondents and differences between groups (with 95% confidence interval). From the left: *white*= more egalitarian respondents; *black*= less egalitarian respondents; *dashes*= differences between groups (more egalitarian respondents as base category).
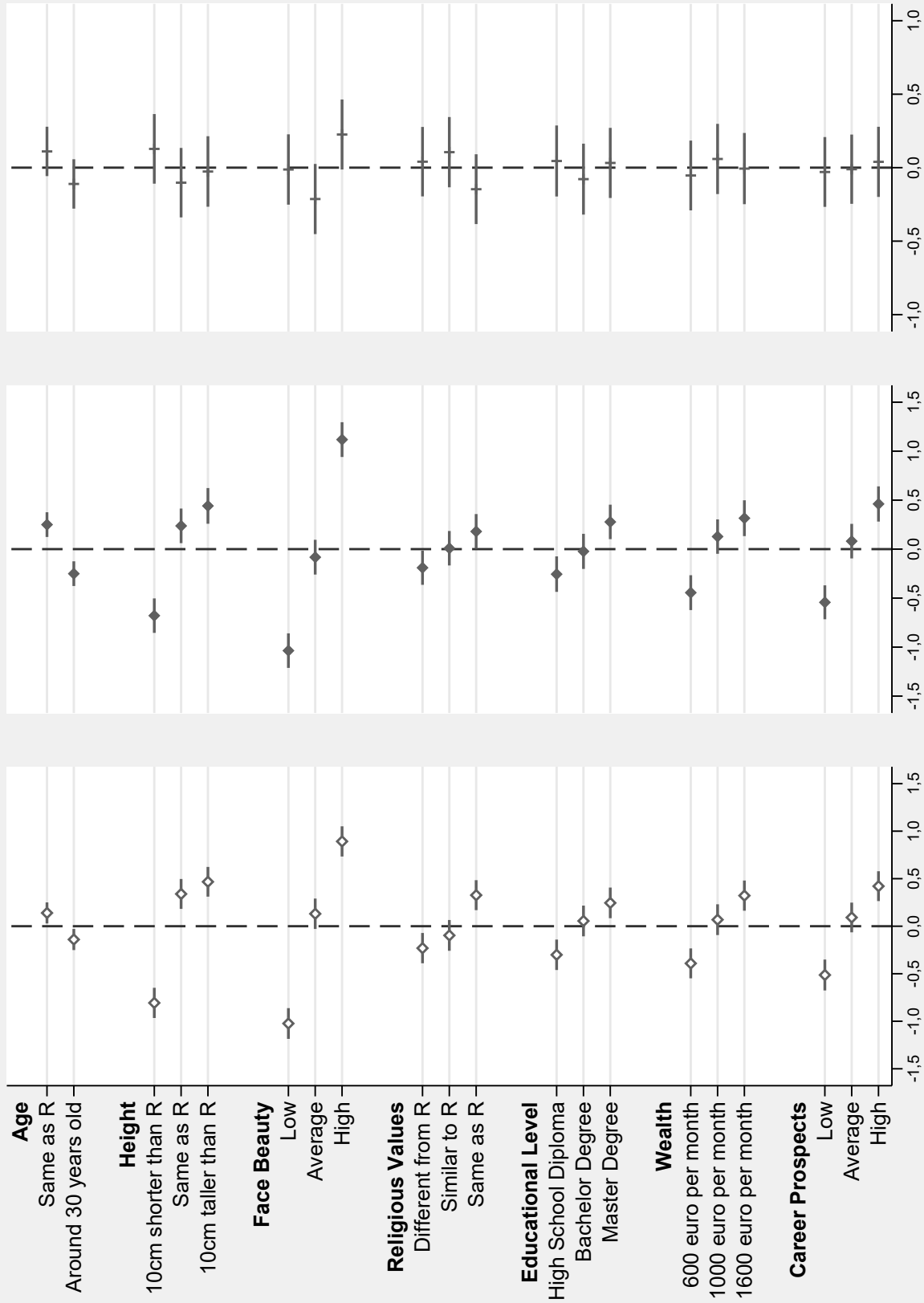
Figure 5.14. Estimates of the average effects of potential partners' dimensions by male supremacy score within female respondents and differences between groups (with 95% confidence interval). From the left: *white*= more egalitarian respondents; *black*= less egalitarian respondents; *dashes*= differences between groups (more egalitarian respondents as base category).

which were more important for respondents with a father who had not graduated. Additionally, this does not hold for career prospects, which seem to be more important for respondents with a father who had graduated. Moreover, when social status is measured with respondents' height, results on the relative effect of vignette dimensions on the mating desirability rating assigned by men show that shorter men valued wealth in a potential partner more than tall men. However, they were also revealed not to assess the higher level of this dimension.

For male respondents with a father who had graduated, potential partners who were 10 cm shorter than the respondent were more desirable; on the contrary, for respondents with a father who had not graduated, this characteristic did not impact their evaluations. If we consider height as a cue for status, the fact that for respondents with a father who had not graduated this dimension is less important may suggest they are more likely to look for indicators of status in a potential partner compared to respondents with a father who had graduated. Finally, facial beauty has the same value across the male subsamples.

In the light of these pieces of evidence, H7 is partially confirmed: men with a higher social status, measured by their father's educational level, tend to find socioeconomic resources less desirable in a potential partner, compared to men with a lower socioeconomic background. However, there is no evidence of a higher preference for facial beauty.

Among female respondents, the very few pieces of evidence in support of H7 come from the tendency of higher status women (both with a father who had graduated and who are tall) to evaluate career prospects as a little less desirable in a potential partner, but the differences are not significant in both models. Also, female respondents with a father who had not graduated are shown to prefer, more than those with a father who had graduated, potential partners who are 10cm taller than themselves. Again, the difference is not statistically significant. Therefore, hypothesis H7 cannot be confirmed for female respondents.

Moving to the cultural variability of mating preferences, I found little evidence that applied only for male respondents. By measuring traditional cultural background with religiosity or the male supremacy score, more conservative male respondents have been shown to care more about a potential partner's height. However, the only significant difference is the one between the average effects of being 10 cm taller than the respondent: for religious respondents, this characteristic has a more negative impact on the mating desirability they have

assigned to vignettes. Differences have not been found between not religious
and religious respondents regarding the value of socioeconomic resources in a
potential partner. Some evidence of this, even if not statistically significant,
is instead observed between more egalitarian and less egalitarian respondents.
The latter valued high educational level and wealth to a greater extent when
rating the vignettes, than did the former. However, there is not certain evidence
that less egalitarian male respondents have more gender-stereotypic preferences
when evaluating potential partners. Thus, H8 cannot be confirmed for men.

Likewise, H8 cannot be confirmed for women respondents. More religious
respondents cared less about a potential partner's age compared to respondents
who were not religious. This may be in contrast with what was expected. The
only relevant piece of evidence regarding the comparison between not religious
and religious women is not associated with H8. In line with previous evidence,
women who are more religious are more interested in religious endogamy
compared to women who are less religious.

Chapter 6

Final considerations

This study relied on interdisciplinary theoretical literature, most of which was not sociological, but was of sociological relevance. Indeed, although human mating has been a fertile field of sociological – and, more broadly, social sciences – investigation, mating preferences have been theorised as drivers that are not affected by attraction, sex and reproduction. This holds true also for the study of marriage and mating patterns: the consideration of the impact of biological elements of human mating behaviour has been generally disregarded. Reasons for this intellectual vacuum can be found in the problematic relationship that sociology has with biology in the light of the lack of a productive debate on the role of nature and nurture in shaping human behaviour. More specifically, sociology may both learn from biological evidence and inform it. Indeed, what we lose, without integrating evidence from different levels (e.g. social, psychological, genetic), is the possibility of building a holistic knowledge of human behaviour that can cross borders and avoid fragmentation across disciplines. According to Sagrestale (2006), social scientists are needed to achieve this aim. But they must put apart the "traditional knee-jerk biophobia" and be part of a fertile construction of an integrated body of knowledge on who we are, how we behave and why.

Debates on differences between men and women can be enhanced by informed sociologists. Otherwise, we may face two interrelated risks. First, sociology may be increasingly excluded from an interdisciplinary debate and, as a consequence, this debate would lose the potential of sociological research and interpretation. Indeed, there is a place for social sciences to contribute to evolutionary biology in actively developing a biocultural framework of human behaviour.

Beyond this great disciplinary undertaking, this study has a modest aim that moved from the desire to fill the gap of sociological contribution within the interdisciplinary literature of research on mating preferences. Indeed, the point is not that sociology completely disregards the study of mating preferences. Instead, it has not interacted with the extensive empirical literature produced by other disciplines and, therefore, engaged in fruitful debate.

As reported in Chapter 1 and Chapter 3, the evidence on mating preferences relied mostly on questionnaires or experimental studies. In the first case, they present limits regarding both sample selection and social desirability biases; in the second case, they are often focused on biological and psychological traits including simple cues of status. Beyond the fertile debate around the theories of evolutionary psychology on mating behaviour and strategies, evidence from evolutionary disciplines provides insights into human mating behaviour. Both patterns of human mating behaviour and variability enhance our knowledge on the interrelated relationship between biological elements and contextual factors, such as ecology and culture.

The risk of studying mating preference differences between men and women is oversimplifying them. Moreover, knowing that women privilege status and men beauty when evaluating potential partners, beyond being a controversial statement, is also not very informative. This is especially true if we want to understand social change in a specific context.

Thus, this study aimed to contribute to the empirical literature by investigating the relative importance of several biological, cultural and socioeconomic traits with a factorial experimental design. This analytical tool allows us to evaluate mating preferences as multidimensional and to estimate the relative impact of each trait preference simultaneously. By relying on social and evolutionary research on human mating, an integrated set of hypotheses has been proposed and tested.

From a sociological perspective, people engage in several forms of social exchange when forming a couple. The concept of social exchange is, indeed, of extreme relevance also from an evolutionary perspective. Men and women need to exchange different types of resources to satisfy their socioeconomic, cultural, reproductive and, even, emotional needs. The social sciences have framed mating preferences as drivers of socioeconomic attainment and cultural matching. In this framework, people tend to avoid worsening their socioeconomic position and instead find a partner who is similar to them. Considering this, the "direction" of mating preferences can be understood. Individuals will aim

to maximise their economic utility and similarity within a couple by preferring those who will help them to retain socioeconomic resources – or at least those who will not be a burden on them – and with whom they share cultural values and lifestyle. This study found evidence on both these mechanisms for both men and women. Also, this study assumed that height and beauty are cues for social status relying on empirical evidence for this association.

Perhaps, two factors must be considered. The first one relates to the preference for age. This study did not propose a younger age than respondents as a characteristic for investigation. The second factor concerns the preference for height. This dimension was not expressed as a relative measure among opposite-sex individuals, for example describing potential partners as more or less tall than the average man or woman. Instead, it was defined as relative to the respondent's height. However, men's height preferences tend towards avoiding a taller partner, but not towards strongly privileging a shorter partner than themselves. Thus, it can be argued that, even if not directly measured, men's height preference may also suggest a tendency towards an average height.

Form a sociological perspective however, it is not possible to formulate hypotheses on mating preference differences between men and women. There are two aspects to this issue. The first aspect is associated with the lack of hypotheses on preferences for sex-specific or sex-typical traits, such as facial femininity or masculinity. The second one is associated with the different potential importance that men and women place on partners' traits. This latter factor has both biological and cultural roots, as they are interrelated. From an evolutionary perspective, it is predictable that women would value more than men, a potential partner's socioeconomic resources and/or the ability to obtain socioeconomic resources. Beyond cultural variability, women have a higher cost in reproduction and men need to balance their contribution in the exchange of resources with a partner.

Moreover, from an evolutionary ecological perspective human behaviour is driven by the optimisation of different abilities and the trade-offs between them, such as surviving, mating and parenting. In Western societies, survival is not just associated with the satisfaction of biological needs but also with personal fulfilment in society. While trying to preserve their own social status, individuals put effort into mating and, if they reproduce, in parenting. Making a trade-off between these dimensions may be a different endeavour for men and women for reasons that are associated with both biological and social constraints and opportunities.

So, by considering an evolutionary perspective and the existing evidence on human behaviour, this study aimed to test a set of hypotheses on differences between men's and women's mating preferences. Far from the more complex endeavour of proving evidence on adaptive behaviour, the aim was to test existing evidence on differences within a new context (Italy), among high-status individuals and with a multidimensional experiment.

Within the respondent sample of this study, it was confirmed that women tend to prefer socioeconomic resources in a potential partner compared to men, who, in turn, do not disvalue them. Indeed, to men, socioeconomic characteristics simply are less relevant in evaluating a potential partner. One may stress that men lose self-confidence in forming a couple with a woman who has a higher social status compared to them. However, this is evidence that is not provided, at least, by this study. But this idea holds true also for other evidence. Overall men seem to adapt to women's preferences. As reported in Chapter 1, it has been found that, in the context of online dating services, men tend to avoid texting highly educated women but respond to them if contacted, while women do not contact lower educated men and do not answer if contacted.

In this regard, we can also stress that the point is not just what is desirable and "sexy" and what is not, but also what is not relevant. In this study, men simply did not, on average, increase their rating when a potential partner profile presented a wealth of 1600 euro, but they also did not decrease it. At the same time, they positively valued educational status and career prospects in a potential partner. The introduction in the experiment of career prospects as a socioeconomic trait was aimed at understanding if material resources, such as money, may still be attractive to women, and they did even when considering their social status and cultural background. Wealth, for women, is "sexy" in a potential partner evaluation. Education was introduced as a cultural trait but, given that this respondent population is highly educated, we do not know if the preference for a Master's degree was due to matching preference or competition. However, the aim was to evaluate this socio-cultural trait considering other socioeconomic traits.

What has not been found in this study is a higher male preference for facial beauty. Even if attractive potential partners' profiles received higher ratings on average from men, the overall interaction between facial beauty and sex was not statistically significant. Also, the strong importance that women place on height suggests that physical attractiveness is very relevant also for women,

at least in this sample. Interestingly, in evaluating potential partners with an average facial beauty, differences in preferences for socioeconomic traits disappear. Thus, beauty plays a role in shaping the differences between men and women. Men seem to make a trade-off between beauty and resources, while women seem to augment their preference for partner resources as beauty increases.

This study also tested if men's and women's mating preferences are associated with one's own social status and cultural values. For the first source of variability, measured by both father's educational level and respondent's height, it has provided some evidence for men but not for women. For the study of cultural values, measured with religiosity and a constructed score of male supremacy, very uncertain evidence has been provided for men but not for women. Overall, differences were mostly not statistically significant, and results need further research to be confirmed. Indeed, we must observe that the analysis reported in Chapter 5 has significant limits that are related to the fact that the study sample is very homogeneous and to how sources of variability were measured. Perhaps the social status measures worked better than the cultural ones. Regarding cultural values, I aimed to deepen our understanding of the issue of associating gender differences to traditional culture in the light of the new studies on gender ideology dimensions. Unfortunately, this was not possible. In both cases, further research may set up a similar experiment among a broader respondent population.

In the study presented in this thesis, evidence of differences between men's and women's preferences have been provided, but we cannot state they are large. Meanwhile, we do not know how these "small" differences may impact on actual behaviour. Also, given the limits of experimental research, we cannot make a generalisation on this evidence. However, it can be considered strong experimental evidence on specific causal associations between people's traits and the evaluation of their desirability as romantic partners assessed by educated young respondents in the context of a contemporary European city. Contrary to previous studies, this experiment has provided no strong evidence on the difference in evaluations of facial beauty between men and women. In line with previous literature, this study confirms that women are more selective in evaluating a potential partner compared to men.

If understanding women's and men's behaviour, constraints and opportunities often means condemning male advantage, it simultaneously often implies an underlying appraisal of women as submissive that, in turn, is controversial

in the context of mating behaviour. In contemporary societies, women have achieved a new socioeconomic position compared to the past and still struggle to maintain this position in the face of male abuses of power. When cultural norms protect them from being forced by men to bend to their will, women exploit their power in the mating market. Indeed, evidence shows that they evaluate carefully and selectively with whom to mate, at least, in comparison to men. Being the right man for an educated, empowered woman is not an easy task, and it is not something that all men can achieve. In line with these considerations, women are not just "victims" of men, they also exploit their power over them. Women seem to demand a balance between their biological costs and their will for personal fulfilment.

Appendix A

Chapter 3

Cara/o <nome personale studente>,

sei stata/o selezionato/a per partecipare alla breve (10 minuti) indagine online:

LE VARIABILI DELL'AMORE:

COME CI SCEGLIAMO?

Cosa vogliamo dal/dalla partner dei nostri sogni? Come ci scegliamo e innamoriamo? Cosa pensiamo delle donne e degli uomini e di come dovrebbero comportarsi?

Questa indagine è condotta da Livia Ridolfi, dottoranda del Dipartimento di Sociologia. Aiuta Livia a raccogliere il maggior numero di questionari possibile! Dura solo **10 minuti** e puoi farlo sia dal tuo computer che dal tuo smartphone in qualsiasi momento.

Per avere tutte le informazioni sulla ricerca clicca qui! Vuoi altre informazioni? Scrivi a Livia (l.ridolfi1@campus.unimib.it) per ogni dubbio o curiosità!

Vuoi partecipare? Clicca sul tuo link personale <LINK > e partecipa!

La tua partecipazione è molto preziosa per la riuscita dello studio, solo 500 studenti sono stati estratti!

Ricorda: partecipare alle indagini, è creare conoscenza!

Grazie e speriamo a presto 😉

Se non vuoi più essere invitata/o a questo studio, clicca qui!

UNIVERSITÀ DEGLI STUDI DI MILANO - BICOCCA
"DIPARTIMENTO DI SOCIOLOGIA"
Via Bicocca degli Arcimboldi, 8 - 20126 Milano

INDAGINE: "LE VARIABILI DELL'AMORE: COME CI SCEGLIAMO?"

Nel merito della ricerca "La variabilità dei valori di genere e delle preferenze nella scelta del partner di lungo periodo: uno studio sperimentale fattoriale"
_____

FOGLIO INFORMATIVO PER LA PARTECIPAZIONE

Ciao!
Ti voglio proporre di partecipare alla mia ricerca di dottorato. È tuo diritto essere informata/o circa lo scopo e le caratteristiche dello studio affinché tu possa decidere in modo consapevole e libero se partecipare. Ti invito a leggere attentamente quanto riportato di seguito.

Per qualsiasi informazione aggiuntiva, si prega di scrivere a Livia Ridolfi, al seguente indirizzo mail:
l.ridolfi1@campus.unimib.it

Il procedimento di tutela dei dati e dei partecipanti verificato dal Comitato Etico dell'Università degli Studi di Milano-Bicocca in data 06/03/2018.

Qual è lo scopo di questo studio?
Lo scopo generale del presente studio è indagare i valori che orientano le relazioni di genere. Nello specifico, si vuole analizzare se, e in quale misura, la cultura degli studenti dell'Università di Milano-Bicocca è associata con le **preferenze nella scelta del partner** e quindi con il processo di formazione della coppia. Ti sarà richiesto di **valutare l'importanza di alcuni tratti in un partner potenziale o di valutare l'attrattività di 6 schematiche descrizioni di individui**. Inoltre, si raccoglieranno dati riguardanti il titolo di studio e l'occupazione dei genitori, l'appartenenza religiosa, alcuni dati biologici (età, altezza, gruppo etnico di appartenenza e, solo per le donne, utilizzo di contraccezione e data dall'ultimo ciclo mestruale), l'orientamento sessuale e il grado di accordo/disaccordo con una serie di affermazioni che riguardano le relazioni di genere. **L'indagine è inclusiva e costruita nel rispetto delle diversità di ognuno.**

Come si svolgerà lo studio?
Lo studio sarà condotto con l'utilizzo di un questionario online, compilabile dal proprio computer o smartphone.

Che cosa ti verrà chiesto di fare?
Partecipare significa rispondere a un breve questionario online, accessibile solo ed esclusivamente dal link che hai ricevuto per mail e compilabile solo ed esclusivamente dopo che hai accettato di partecipare (cliccando nelle apposite caselle). Il link è personale e quindi non cedibile a nessun altro.
La durata del questionario sarà di circa **10 minuti**. Ti verrà chiesto di rispondere a domande che raccolgono i dati elencati al punto "Qual è lo scopo di questo studio?".

Per quale ragione ti propongo di partecipare?
Ti è stato proposto di partecipare perché sei studente dell'Università degli studi di Milano--Bicocca iscritta/o a uno dei corsi selezionati per lo studio e sei stata/o estratta/o durante il campionamento.

Sei obbligata/o a partecipare allo studio?
La tua partecipazione è completamente libera. Inoltre, se tu dovessi cambiare idea e volessi ritirarti, in qualsiasi momento sei libera/o di farlo senza dover fornire alcuna spiegazione.

Quali sono i passaggi necessari per partecipare allo studio?

UNIVERSITÀ DEGLI STUDI DI MILANO - BICOCCA
"DIPARTIMENTO DI SOCIOLOGIA"
Via Bicocca degli Arcimboldi, 8 - 20126 Milano

La partecipazione allo studio avviene previa dettagliata informazione sulle caratteristiche dello stesso. Al termine della fase informativa, potrai accedere al questionario online e acconsentire alla partecipazione allo studio. Solo dopo che avrai espresso il tuo consenso, potrai attivamente partecipare allo studio proposto.

Quali sono i possibili rischi e i disagi dello studio?
Non sono noti rischi o disagi relativi alla partecipazione. In ogni caso, per quanto riguarda le domande più sensibili, sei libera/o di scegliere di non rispondere.

Quali sono i possibili benefici derivanti dallo studio?
Partecipare a questa ricerca permette di interrogarsi su alcune questioni relative ai propri valori che orientano le relazioni di genere e alle proprie preferenze nella scelta del partner.

Come viene garantita la riservatezza delle informazioni?
Durante l'indagine ti verrà chiesto di fornire alcuni dati personali, quali età, altezza, orientamento sessuale, religione. Queste informazioni, così come i dati che emergeranno nel corso della ricerca, sono importanti per il corretto svolgimento dello studio. La riservatezza di tutte le informazioni sarà garantita deidentificando i dati appena dopo il completamento del questionario. Deidentificare significa assegnare un codice numerico ai partecipanti, in modo da non diffonderne i tuoi dati identificativi. Io stessa, conduttrice e responsabile della ricerca, riceverò i dati raccolti già deidentificati, quindi non avrò modo (oltre a non avere interesse) di collegare il tuo nome alle tue risposte.

Come saranno usati i tuoi dati personali?
I dati raccolti saranno utilizzati in forma anonima e aggregata, in modo da non poter risalire ai dati dei singoli individui, per lavori di tesi e/o pubblicazioni scientifiche, in accordo con quanto è stabilito nella "Informativa sul trattamento dei dati personali per scopi scientifici", che puoi visionare al seguente link https://drive.google.com/drive/folders/1MQ0pqSNeQ6FWie_GFbKx2dQ3mczQzyBp.

Ti ringrazio per la tua disponibilità!

Livia Ridolfi

Dottoranda del Dipartimento di Sociologia e ricerca sociale
Università degli Studi di Milano- Bicocca
Edificio U7 – 2° Piano, stanza 205
Via Bicocca degli Arcimboldi, 8 -- 20126, Milano.

Email: l.ridolfi1@campus.unimib.it

UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

Dipartimento di Sociologia

Informativa sul trattamento dei dati personali per scopi scientifici

Gentile Studente,

La informiamo che il trattamento dei Suoi dati personali, dei dati sensibili e delle informazioni che La riguardano, raccolti nel corso dello studio, sarà improntato ai principi di correttezza, liceità, trasparenza e riservatezza.

La informiamo, con particolare riferimento al trattamento dei dati sensibili che La riguardano, ossia i dati personali idonei a rivelare l'origine etnica, le convinzioni religiose, filosofiche o di altro genere, le opinioni politiche, l'adesione a partiti, sindacati, associazioni od organizzazioni a carattere religioso, filosofico, politico o sindacale, nonché i dati personali idonei a rivelare lo stato di salute e la vita sessuale, che ciò avverrà nel rispetto delle norme in materia di seguito elencate ex art. 4 del Decreto legislativo 30 giugno 2003 n. 196.

-Ai sensi del Decreto legislativo 30 giugno 2003 n. 196, articolo 13, nonché delle Autorizzazioni del Garante per la protezione dei dati personali, rispettivamente, n. 2/2014 relativa al trattamento dei dati idonei a rivelare lo stato di salute e la vita sessuale, in particolare, art. 1, comma 1.2 lettera a) e n. 9/2014 relativa al trattamento dei dati personali effettuato per scopi di ricerca scientifica, in particolare, artt. 5, 6, 7, 8, la informiamo che:

-i dati liberamente conferiti saranno utilizzati solo per scopo di studi e di ricerca e non verranno comunicati o diffusi e titolare del trattamento dei Suoi dati è l'Università degli Studi di Milano-Bicocca e il Responsabile del trattamento è la Dott.ssa Livia Ridolfi.

-Il conferimento dei dati è facoltativo e l'eventuale rifiuto a fornire tali dati potrebbe comportare solo l'interruzione della Sua partecipazione allo studio.

- Ai sensi dell'articolo 7 del Decreto legislativo 30 giugno 2003 n. 196, potrà esercitare, in ogni momento, nei confronti del Responsabile del progetto di ricerca i Suoi diritti di ottenere conferma dell'esistenza o meno di dati personali che lo riguardano, aggiornamento, cancellazione, trasformazione in forma anonima dei suddetti dati, nonché di opporsi per motivi legittimi al trattamento dei dati personali.

-Ai sensi del Decreto legislativo 30 giugno 2003 n. 196, articolo 11, comma 1, lettera e), i dati verranno conservati per un periodo non superiore al periodo di raccolta de dati, quindi non oltre il 2018, perché subito deidentificati.

Indagine sugli studenti dell'Università di Milano–Bicocca[1]

Le variabili dell'amore: come ci scegliamo?

Prima di cominciare il questionario, ti prego di: (a) dichiarare di avere accesso al documento informativo sulla ricerca; (b) acconsentire a partecipare alla ricerca; (c) acconsentire al trattamento dei dati personali per scopi scientifici. Puoi nuovamente accedere al foglio informativo sulla ricerca qui <link al documento> (*Allegato G.2*) e visionare l'informativa sul trattamento dei dati personali per scopi scientifici qui <link al documento> (*Allegato H*).

Ti ricordo che le informazioni raccolte mediante questo questionario saranno considerate, ora e in futuro, assolutamente riservate. Inoltre, **tali informazioni saranno sempre e solo analizzate in forma aggregata e anonima**, esclusivamente per finalità scientifiche.

(a) Dichiaro di aver ricevuto informazioni che mi hanno permesso di comprendere il progetto di ricerca, anche alla luce degli eventuali chiarimenti da me richiesti. Confermo che mi è stato dato accesso a una copia del documento informativo. □

(b) Acconsento a partecipare alla ricerca. □

(c) Acconsento al trattamento dei dati personali per scopi scientifici. □

Grazie per la collaborazione!

---

[1] Il testo in corsivo non è visionato dai partecipanti ed è a mero fine esplicativo per i membri del Comitato Etico.

Indagine sugli studenti dell'Università di Milano–Bicocca

Le variabili dell'amore: come ci scegliamo?

Questo questionario raccoglie alcune informazioni sugli studenti dell'Università di Milano—Bicocca molto rilevanti per la mia ricerca sui valori che orientano le relazioni di genere.

Ti prego di leggere con attenzione le domande che seguono e di rispondere con la massima sincerità a ognuna di esse. A seconda della domanda, scrivi la tua risposta nello spazio indicato oppure segna la risposta più appropriata fra quelle proposte.

Sezione 1

1. Quale è la tua nazionalità?

_____

2. Qual è (o era) il titolo di studio dei tuoi genitori?

	Madre	Padre
Licenza elementare	☐ 1	☐ 1
Licenza media	☐ 2	☐ 2
Diploma di qualifica professionale	☐ 3	☐ 3
Diploma di maturità	☐ 4	☐ 4
Laurea o altro titolo universitario	☐ 5	☐ 5
Genitore mai conosciuto	☐ 0	☐ 0

3. Quale di queste alternative descrive meglio la condizione lavorativa dei tuoi genitori?

	Madre	Padre
Occupata/o	☐ 1	☐ 1
Non occupata/o	☐ 2	☐ 2
Genitore assente	☐ 0	☐ 0

4. Quale tra le seguenti descrizioni proposte descrive meglio il tipo di lavoro che svolge (o svolgeva) tuo padre?

Imprenditore . . . . ☐ 1
Libero professionista . . . . ☐ 2
Artigiano/commerciante . . . . ☐ 3   ⟹   *Continua con la Domanda 6*
Agricoltore . . . . ☐ 4
Dirigente/quadro . . . . ☐ 5

Lavoratore dipendente non manuale . ☐ 6   ⟹   *Continua con la Domanda 5*
Lavoratore dipendente manuale . . . . . . ☐ 7

2

Padre assente . . . . □ ₀ } ⇒ *Continua con la Domanda 6*

5. Quale lavoro svolge (o svolgeva) esattamente tuo padre?

_____

6. Quale tra le seguenti descrizioni proposte descrive meglio il tipo di lavoro che svolge (o svolgeva) tua madre?

Imprenditrice . . . . □ ₁
Libera professionista . . . . □ ₂
Artigiana/commerciante . . . . □ ₃ } ⇒ *Continua con la Domanda 8*
Agricoltrice . . . . □ ₄
Dirigente/quadro . . . . □ ₅

Lavoratrice dipendente non manuale . □ ₆ } ⇒ *Continua con la Domanda 7*
Lavoratrice dipendente manuale . . . . . □ ₇

Madre assente . . . . □ ₀ } ⇒ *Continua con la Domanda 8*

7. Quale lavoro svolge (o svolgeva) esattamente tua madre?

_____

8. Ti consideri appartenente ad una particolare religione o confessione religiosa?

Sì . . . . □ ₁ } ⇒ *Continua con la Domanda 9*

No . . . . □ ₂ } ⇒ *Continua con la Domanda 11*

9. In quale organizzazione religiosa (comunità o chiesa) ti riconosci?

Chiesa cattolica . . . . □ ₁
Altre religioni non cattoliche . . . . □ ₀

10. Escludendo alcuni riti religiosi come i matrimoni, i funerali e i battesimi, ogni quanto frequenti le funzioni religiose attualmente?

Più di una volta la settimana . . . . □ ₁
Una volta la settimana (cioè sempre, se non malato o in
viaggio) . . . . □ ₂
Da 1 a 3 volte al mese . . . . □ ₃
Solo in specifiche festività religiose . . . . □ ₄
Meno di una volta l'anno . . . . □ ₅
Mai, praticamente mai . . . . □ ₀

3

Sezione 2

11. In quale anno sei nata/o?

☐☐☐☐

12. Quanto sei alta/o? (cm)

☐☐☐

13. A quale categoria di gruppi etnico appartieni?

Africano/Afro-americano .... ☐ 1
Arabo/Mediorientale .... ☐ 2
Asiatico/Indiano .... ☐ 3
Europeo/Caucasico .... ☐ 4
Spagnolo/Latino .... ☐ 5
Misto .... ☐ 6
Altro .... ☐ 0

14. *Solo donne:* Attualmente fai uso di contraccezione ormonale?

Sì .... ☐ 1
No .... ☐ 2

15. *Solo donne:* Consultando l'agenda o l'applicazione che utilizzi, potresti, per favore, indicare le date di inizio e fine del tuo ultimo ciclo mestruale? (due cifre per il giorno, due cifre per il mese)

Inizio ☐☐☐☐   Fine ☐☐☐☐

Sezione 3

16. In questo momento sei impegnata/o in una relazione sentimentale stabile?

Sì .... ☐ 1
No .... ☐ 2

17. In generale, la formazione di una relazione sentimentale stabile rientra nei tuoi progetti di vita?

Certamente no .... ☐ 1
Probabilmente no .... ☐ 2
Probabilmente sì .... ☐ 3
Certamente sì .... ☐ 4
Non so .... ☐ 5

18. Nelle relazioni di coppia, preferisci:

Donne . . . . □ ₁ ⎫
Uomini . . . . □ ₂ ⎬ ⇒ *Salta la domanda 20*

Entrambi . . . . □ ₃ ⎫
Nessuno . . . . □ ₄ ⎬ ⇒ *Salta la domanda 21*
Altro . . . . □ ₀ ⎭

19. Desideri avere figli nella tua vita?

Certamente no . . . . □ ₁
Probabilmente no . . . . □ ₂
Probabilmente sì . . . . □ ₃
Certamente sì . . . . □ ₄
Non so . . . . □ ₅

20. *Solo per studenti non eterosessuali e/o non caucasici e/o non italiani:* Per ognuna di queste caratteristiche dovresti indicare quanto la ritieni importante in un partner potenziale, nell'ottica di una relazione di lungo periodo, su una scala da 1 a 7. Il punteggio 1 significa che consideri la caratteristica *assolutamente non importante*; il punteggio 7 significa che consideri la caratteristica *decisamente importante*; e i punteggi da 2 a 6 rappresentano i punteggi intermedi.

	1	2	3	4	5	6	7
Bellezza	□	□	□	□	□	□	□
Altezza	□	□	□	□	□	□	□
Titolo di studio	□	□	□	□	□	□	□
Reddito	□	□	□	□	□	□	□
Prospettive di carriera	□	□	□	□	□	□	□
Valori religiosi uguali ai tuoi	□	□	□	□	□	□	□
Valori politici uguali ai tuoi	□	□	□	□	□	□	□

21. ***Solo per studenti eterossessuali, caucasici e italiani:*** **Per ognuno di questi profili dovresti indicare quanto lo ritieni desiderabile nell'ottica di una relazione sentimentale di lungo periodo su una scala da 0 a 10. Il punteggio 0 significa che consideri il profilo *assolutamente non desiderabile*; il punteggio 10 significa che consideri il profilo *decisamente desiderabile*; e i punteggi da 2 a 9 rappresentano i punteggi intermedi. *(Esempio di 6 possibili profili mostrati. Le immagini dei volti sono state tolte nel rispetto dell'accordo di non diffusione.)***

22. ***Per tutti:*** **Per ognuna di queste affermazioni, dovresti indicare quanto sei d'accordo. Il punteggio 1 significa che sei *completamente in disaccordo* con l'affermazione; il punteggio 4 significa che sei *completamente d'accordo* con l'affermazione; e i punteggi 2 e 3 rappresentano posizioni intermedie. Nell'ipotesi in cui tu non riesca a indicare un grado di accordo o disaccordo con l'affermazione, puoi indicare *Non so*, ma ti chiedo gentilmente di cercare di indicare una delle 4 caselle da 1 a 4.**

	Disaccordo 1	2	3	Accordo 4	Non so
È probabile che un bambino in età pre-scolare soffra se sua madre lavora fuori casa	☐	☐	☐	☐	☐
Essere una casalinga consente alla donna di realizzarsi quanto un lavoro retribuito	☐	☐	☐	☐	☐
Sia il marito che la moglie dovrebbero entrambi contribuire al reddito familiare	☐	☐	☐	☐	☐
In generale i padri sono adatti a seguire i figli al pari delle madri	☐	☐	☐	☐	☐
Gli uomini devono assumere la stessa responsabilità delle donne per la casa ed i figli	☐	☐	☐	☐	☐
In generale, gli uomini sono leader politici migliori che le donne	☐	☐	☐	☐	☐
Avere un lavoro è il modo migliore per una donna di essere indipendente	☐	☐	☐	☐	☐
Va bene lavorare fuori casa, ma ciò che la maggior parte delle donne vuole veramente è una casa e dei figli	☐	☐	☐	☐	☐
Le coppie omosessuali dovrebbero poter adottare dei bambini	☐	☐	☐	☐	☐
Se una donna guadagna più di suo marito, è quasi sicuro che questo causi problemi	☐	☐	☐	☐	☐
Un bambino per crescere felice ha bisogno di una famiglia con un padre e una madre	☐	☐	☐	☐	☐

Grazie per la collaborazione! Il questionario è terminato!

Appendix B

Chapter 4

Estimates of the average marginal effects of vignette dimensions within each sex and differences between sexes (Estimates in bold are significant at least at 95% level of confidence)

		Male raters	Female raters	Differences
Age	Same as R	**0.30**	**0.19**	-0.12
	Around 30 years old	**-0.30**	**-0.19**	0.12
Height	10cm shorter than R	**0.16**	**-0.75**	**-0.91**
	Same as R	**0.17**	**0.29**	0.13
	10cm taller than R	**-0.33**	**0.46**	**0.79**
Facial Beauty	Low	**-1.17**	**-1.03**	0.14
	Average	0.01	0.05	0.05
	High	**1.16**	**0.97**	**-0.19**
Religious Values	Different from R	**-0.26**	**-0.22**	0.04
	Similar to R	0.05	-0.05	-0.10
	Same as R	**0.21**	**0.27**	0.06
Educational Level	High School Diploma	**-0.29**	**-0.27**	0.02
	Bachelor Degree	-0.06	0.03	0.09
	Master Degree	**0.35**	**0.24**	-0.11
Wealth	600 euro per month	**-0.25**	**-0.41**	-0.17
	1000 euro per month	**0.14**	0.09	-0.05
	1600 euro per month	0.10	**0.32**	**0.22**
Career Prospect	Low	**-0.22**	**-0.53**	**-0.31**
	Average	-0.03	0.09	0.12
	High	**0.25**	**0.44**	**0.19**

Estimates of the average marginal effects of vignette dimensions by face beauty level within each sex and differences between sexes (Estimates in bold are significant at least at 95% level of confidence)

		Low face beauty			Average face beauty			High face beauty		
		Male respondents	Female respondents	Differences	Male respondents	Female respondents	Differences	Male respondents	Female respondents	Differences
Age	Same as R	**0.35**	**-0.02**	**-0.37**	**0.27**	**0.49**	**0.23**	**0.29**	0.09	-0.21
	Around 30 years old	**-0.35**	0.02	**0.37**	**-0.27**	**-0.49**	**-0.23**	**-0.29**	-0.09	0.21
	10cm shorter than R	0.12	**-0.43**	**-0.55**	0.16	**-0.80**	**-0.96**	0.20	**-1.03**	**-1.23**
Height	Same as R	0.02	0.14	0.11	**0.24**	**0.37**	0.14	**0.25**	**0.37**	0.13
	10cm taller than R	-0.14	**0.30**	**0.44**	**-0.39**	**0.43**	**0.82**	**-0.45**	**0.66**	**1.11**
Religious Values	Different from R	-0.20	**-0.21**	-0.01	**-0.33**	**-0.21**	0.13	**-0.24**	**-0.22**	0.02
	Similar to R	-0.04	-0.06	-0.02	0.16	-0.14	**-0.30**	0.04	0.04	0.00
	Same as R	**0.24**	**0.27**	0.03	0.18	**0.35**	0.17	0.20	0.18	-0.02
Educational Level	High School Diploma	**-0.31**	-0.15	0.15	**-0.23**	**-0.29**	-0.06	**-0.33**	**-0.37**	-0.04
	Bachelor Degree	-0.04	0.02	0.06	-0.17	0.01	0.18	0.02	0.05	0.02
	Master Degree	**0.35**	0.13	-0.22	**0.41**	**0.28**	-0.13	**0.31**	**0.32**	0.01
Wealth	600 euro per month	**-0.22**	**-0.37**	-0.15	**-0.40**	**-0.39**	0.01	-0.12	**-0.47**	-0.35
	1000 euro per month	**0.24**	0.00	-0.25	0.15	0.07	-0.08	0.03	0.19	0.16
	1600 euro per month	-0.02	**0.38**	**0.40**	**0.25**	**0.32**	0.07	0.09	**0.28**	0.19
Career Prospect	Low	-0.15	-0.20	-0.05	**-0.28**	**-0.58**	**-0.30**	**-0.24**	**-0.81**	**-0.57**
	Average	0.02	-0.06	-0.08	-0.02	**0.22**	0.24	-0.09	0.12	0.20
	High	0.13	**0.26**	0.13	**0.30**	**0.37**	0.06	**0.32**	**0.69**	**0.37**

Appendix C

Chapter 5

*

Not graduated father – Male respondents eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	238	51.52	51.52	51.52
	2	Around 30 years old	224	48.48	48.48	100.00
	Total		462	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	147	31.82	31.82	31.82
	2	Same height as R.	154	33.33	33.33	65.15
	3	10 cm higher	161	34.85	34.85	100.00
	Total		462	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	158	34.20	34.20	34.20
	2	Average	161	34.85	34.85	69.05
	3	High	143	30.95	30.95	100.00
	Total		462	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	160	34.63	34.63	34.63
	2	Similar to R.	143	30.95	30.95	65.58
	3	Same as R.	159	34.42	34.42	100.00
	Total		462	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	144	31.17	31.17	31.17
	2	Bachelor Degree	154	33.33	33.33	64.50
	3	Master Degree	164	35.50	35.50	100.00
	Total		462	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	174	37.66	37.66	37.66
	2	Around 1000 euro	145	31.39	31.39	69.05
	3	Around 1500 euro	143	30.95	30.95	100.00
	Total		462	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	142	30.74	30.74	30.74
	2	Average	175	37.88	37.88	68.61
	3	Hight	145	31.39	31.39	100.00
	Total		462	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.063	1.000					
Face beauty	0.007	0.038	1.000				
Religious values	0.060	-0.016	-0.058	1.000			
Educational level	0.023	-0.048	-0.031	0.016	1.000		
Monthly wealth	-0.100	0.054	-0.023	0.034	0.011	1.000	
Career prospects	0.019	-0.034	0.017	-0.073	-0.031	-0.023	1.000

Graduated father – Male respondents

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	203	46.35	46.35	46.35
	2	Around 30 years old	235	53.65	53.65	100.00
	Total		438	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	146	33.33	33.33	33.33
	2	Same height as R.	148	33.79	33.79	67.12
	3	10 cm higher	144	32.88	32.88	100.00
	Total		438	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	132	30.14	30.14	30.14
	2	Average	154	35.16	35.16	65.30
	3	High	152	34.70	34.70	100.00
	Total		438	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	140	31.96	31.96	31.96
	2	Similar to R.	147	33.56	33.56	65.53
	3	Same as R.	151	34.47	34.47	100.00
	Total		438	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	152	34.70	34.70	34.70
	2	Bachelor Degree	151	34.47	34.47	69.18
	3	Master Degree	135	30.82	30.82	100.00
	Total		438	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	136	31.05	31.05	31.05
	2	Around 1000 euro	153	34.93	34.93	65.98
	3	Around 1500 euro	149	34.02	34.02	100.00
	Total		438	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	153	34.93	34.93	34.93
	2	Average	134	30.59	30.59	65.53
	3	Hight	151	34.47	34.47	100.00
	Total		438	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.056	1.000					
Face beauty	0.019	-0.090	1.000				
Religious values	-0.056	0.086	0.005	1.000			
Educational level	-0.045	-0.028	-0.018	-0.033	1.000		
Monthly wealth	0.040	-0.028	-0.044	-0.012	-0.030	1.000	
Career prospects	-0.049	0.030	-0.047	0.061	-0.007	0.038	1.000

Not graduated father – Female respondents

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	296	48.84	48.84	48.84
	2	Around 30 years old	310	51.16	51.16	100.00
	Total		606	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	212	34.98	34.98	34.98
	2	Same height as R.	205	33.83	33.83	68.81
	3	10 cm higher	189	31.19	31.19	100.00
	Total		606	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	212	34.98	34.98	34.98
	2	Average	185	30.53	30.53	65.51
	3	High	209	34.49	34.49	100.00
	Total		606	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	209	34.49	34.49	34.49
	2	Similar to R.	185	30.53	30.53	65.02
	3	Same as R.	212	34.98	34.98	100.00
	Total		606	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	197	32.51	32.51	32.51
	2	Bachelor Degree	215	35.48	35.48	67.99
	3	Master Degree	194	32.01	32.01	100.00
	Total		606	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	194	32.01	32.01	32.01
	2	Around 1000 euro	223	36.80	36.80	68.81
	3	Around 1500 euro	189	31.19	31.19	100.00
	Total		606	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	194	32.01	32.01	32.01
	2	Average	207	34.16	34.16	66.17
	3	Hight	205	33.83	33.83	100.00
	Total		606	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.009	1.000					
Face beauty	0.006	-0.025	1.000				
Religious values	-0.034	0.051	0.000	1.000			
Educational level	0.031	-0.048	-0.005	0.020	1.000		
Monthly wealth	-0.031	-0.006	0.045	-0.020	0.039	1.000	
Career prospects	0.010	0.024	0.025	-0.029	0.018	-0.002	1.000

Graduated father – Female respondents

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	148	48.37	48.37	48.37
	2	Around 30 years old	158	51.63	51.63	100.00
	Total		306	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	94	30.72	30.72	30.72
	2	Same height as R.	97	31.70	31.70	62.42
	3	10 cm higher	115	37.58	37.58	100.00
	Total		306	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	93	30.39	30.39	30.39
	2	Average	108	35.29	35.29	65.69
	3	High	105	34.31	34.31	100.00
	Total		306	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	99	32.35	32.35	32.35
	2	Similar to R.	112	36.60	36.60	68.95
	3	Same as R.	95	31.05	31.05	100.00
	Total		306	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	110	35.95	35.95	35.95
	2	Bachelor Degree	91	29.74	29.74	65.69
	3	Master Degree	105	34.31	34.31	100.00
	Total		306	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	110	35.95	35.95	35.95
	2	Around 1000 euro	95	31.05	31.05	66.99
	3	Around 1500 euro	101	33.01	33.01	100.00
	Total		306	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	104	33.99	33.99	33.99
	2	Average	101	33.01	33.01	66.99
	3	Hight	101	33.01	33.01	100.00
	Total		306	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.001	1.000					
Face beauty	0.047	-0.014	1.000				
Religious values	0.033	-0.029	-0.035	1.000			
Educational level	0.020	0.040	0.059	-0.074	1.000		
Monthly wealth	0.037	0.022	-0.018	0.074	-0.048	1.000	
Career prospects	0.028	-0.018	-0.034	0.060	-0.057	0.019	1.000

Short respondents – Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	372	51.24	51.24	51.24
	2	Around 30 years old	354	48.76	48.76	100.00
	Total		726	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	236	32.51	32.51	32.51
	2	Same height as R.	242	33.33	33.33	65.84
	3	10 cm higher	248	34.16	34.16	100.00
	Total		726	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	254	34.99	34.99	34.99
	2	Average	241	33.20	33.20	68.18
	3	High	231	31.82	31.82	100.00
	Total		726	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	245	33.75	33.75	33.75
	2	Similar to R.	248	34.16	34.16	67.91
	3	Same as R.	233	32.09	32.09	100.00
	Total		726	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	244	33.61	33.61	33.61
	2	Bachelor Degree	232	31.96	31.96	65.56
	3	Master Degree	250	34.44	34.44	100.00
	Total		726	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	258	35.54	35.54	35.54
	2	Around 1000 euro	232	31.96	31.96	67.49
	3	Around 1500 euro	236	32.51	32.51	100.00
	Total		726	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	236	32.51	32.51	32.51
	2	Average	251	34.57	34.57	67.08
	3	Hight	239	32.92	32.92	100.00
	Total		726	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.030	1.000					
Face beauty	-0.023	-0.003	1.000				
Religious values	-0.028	-0.004	-0.042	1.000			
Educational level	-0.003	-0.037	0.031	0.019	1.000		
Monthly wealth	-0.004	0.005	-0.048	-0.001	0.002	1.000	
Career prospects	-0.012	-0.038	-0.012	-0.023	0.012	-0.012	1.000

Tall respondents – Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	357	48.77	48.77	48.77
	2	Around 30 years old	375	51.23	51.23	100.00
	Total		732	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	250	34.15	34.15	34.15
	2	Same height as R.	244	33.33	33.33	67.49
	3	10 cm higher	238	32.51	32.51	100.00
	Total		732	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	232	31.69	31.69	31.69
	2	Average	245	33.47	33.47	65.16
	3	High	255	34.84	34.84	100.00
	Total		732	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	241	32.92	32.92	32.92
	2	Similar to R.	238	32.51	32.51	65.44
	3	Same as R.	253	34.56	34.56	100.00
	Total		732	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	242	33.06	33.06	33.06
	2	Bachelor Degree	254	34.70	34.70	67.76
	3	Master Degree	236	32.24	32.24	100.00
	Total		732	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	228	31.15	31.15	31.15
	2	Around 1000 euro	254	34.70	34.70	65.85
	3	Around 1500 euro	250	34.15	34.15	100.00
	Total		732	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	250	34.15	34.15	34.15
	2	Average	235	32.10	32.10	66.26
	3	Hight	247	33.74	33.74	100.00
	Total		732	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.031	1.000					
Face beauty	0.021	0.005	1.000				
Religious values	0.026	0.004	0.040	1.000			
Educational level	0.004	0.037	-0.031	-0.018	1.000		
Monthly wealth	0.002	-0.003	0.046	-0.001	-0.002	1.000	
Career prospects	0.012	0.036	0.012	0.022	-0.012	0.013	1.000

Short respondents – Female

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	365	48.67	48.67	48.67
	2	Around 30 years old	385	51.33	51.33	100.00
	Total		750	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	235	31.33	31.33	31.33
	2	Same height as R.	248	33.07	33.07	64.40
	3	10 cm higher	267	35.60	35.60	100.00
	Total		750	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	244	32.53	32.53	32.53
	2	Average	251	33.47	33.47	66.00
	3	High	255	34.00	34.00	100.00
	Total		750	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	244	32.53	32.53	32.53
	2	Similar to R.	265	35.33	35.33	67.87
	3	Same as R.	241	32.13	32.13	100.00
	Total		750	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	249	33.20	33.20	33.20
	2	Bachelor Degree	245	32.67	32.67	65.87
	3	Master Degree	256	34.13	34.13	100.00
	Total		750	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	259	34.53	34.53	34.53
	2	Around 1000 euro	254	33.87	33.87	68.40
	3	Around 1500 euro	237	31.60	31.60	100.00
	Total		750	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	248	33.07	33.07	33.07
	2	Average	252	33.60	33.60	66.67
	3	Hight	250	33.33	33.33	100.00
	Total		750	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.002	1.000					
Face beauty	-0.012	0.015	1.000				
Religious values	-0.005	-0.020	0.002	1.000			
Educational level	0.011	0.021	0.028	-0.012	1.000		
Monthly wealth	0.001	-0.050	0.023	-0.014	-0.012	1.000	
Career prospects	0.026	0.036	0.010	0.035	0.016	-0.020	1.000

Tall respondents – Female

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	364	51.41	51.41	51.41
	2	Around 30 years old	344	48.59	48.59	100.00
	Total		708	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	251	35.45	35.45	35.45
	2	Same height as R.	238	33.62	33.62	69.07
	3	10 cm higher	219	30.93	30.93	100.00
	Total		708	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	242	34.18	34.18	34.18
	2	Average	235	33.19	33.19	67.37
	3	High	231	32.63	32.63	100.00
	Total		708	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	242	34.18	34.18	34.18
	2	Similar to R.	221	31.21	31.21	65.40
	3	Same as R.	245	34.60	34.60	100.00
	Total		708	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	237	33.47	33.47	33.47
	2	Bachelor Degree	241	34.04	34.04	67.51
	3	Master Degree	230	32.49	32.49	100.00
	Total		708	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	227	32.06	32.06	32.06
	2	Around 1000 euro	232	32.77	32.77	64.83
	3	Around 1500 euro	249	35.17	35.17	100.00
	Total		708	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	238	33.62	33.62	33.62
	2	Average	234	33.05	33.05	66.67
	3	Hight	236	33.33	33.33	100.00
	Total		708	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.005	1.000					
Face beauty	0.012	-0.018	1.000				
Religious values	0.005	0.021	-0.002	1.000			
Educational level	-0.013	-0.024	-0.030	0.013	1.000		
Monthly wealth	0.001	0.057	-0.022	0.014	0.013	1.000	
Career prospects	-0.028	-0.038	-0.011	-0.035	-0.017	0.021	1.000

Egalitarian – Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	308	50.83	50.83	50.83
	2	Around 30 years old	298	49.17	49.17	100.00
	Total		606	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	201	33.17	33.17	33.17
	2	Same height as R.	205	33.83	33.83	67.00
	3	10 cm higher	200	33.00	33.00	100.00
	Total		606	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	211	34.82	34.82	34.82
	2	Average	185	30.53	30.53	65.35
	3	High	210	34.65	34.65	100.00
	Total		606	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	196	32.34	32.34	32.34
	2	Similar to R.	229	37.79	37.79	70.13
	3	Same as R.	181	29.87	29.87	100.00
	Total		606	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	200	33.00	33.00	33.00
	2	Bachelor Degree	208	34.32	34.32	67.33
	3	Master Degree	198	32.67	32.67	100.00
	Total		606	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	195	32.18	32.18	32.18
	2	Around 1000 euro	218	35.97	35.97	68.15
	3	Around 1500 euro	193	31.85	31.85	100.00
	Total		606	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	216	35.64	35.64	35.64
	2	Average	192	31.68	31.68	67.33
	3	Hight	198	32.67	32.67	100.00
	Total		606	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.043	1.000					
Face beauty	0.018	-0.017	1.000				
Religious values	0.006	0.018	-0.088	1.000			
Educational level	-0.020	-0.000	0.002	-0.013	1.000		
Monthly wealth	0.033	-0.033	-0.072	-0.011	-0.015	1.000	
Career prospects	0.031	0.034	-0.046	-0.042	-0.020	-0.035	1.000

Less egalitarian – Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	421	49.41	49.41	49.41
	2	Around 30 years old	431	50.59	50.59	100.00
	Total		852	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	285	33.45	33.45	33.45
	2	Same height as R.	281	32.98	32.98	66.43
	3	10 cm higher	286	33.57	33.57	100.00
	Total		852	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	275	32.28	32.28	32.28
	2	Average	301	35.33	35.33	67.61
	3	High	276	32.39	32.39	100.00
	Total		852	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	290	34.04	34.04	34.04
	2	Similar to R.	257	30.16	30.16	64.20
	3	Same as R.	305	35.80	35.80	100.00
	Total		852	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	286	33.57	33.57	33.57
	2	Bachelor Degree	278	32.63	32.63	66.20
	3	Master Degree	288	33.80	33.80	100.00
	Total		852	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	291	34.15	34.15	34.15
	2	Around 1000 euro	268	31.46	31.46	65.61
	3	Around 1500 euro	293	34.39	34.39	100.00
	Total		852	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	270	31.69	31.69	31.69
	2	Average	294	34.51	34.51	66.20
	3	Hight	288	33.80	33.80	100.00
	Total		852	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.030	1.000					
Face beauty	-0.013	0.012	1.000				
Religious values	-0.004	-0.012	0.061	1.000			
Educational level	0.014	-0.000	-0.002	0.008	1.000		
Monthly wealth	-0.023	0.023	0.051	0.007	0.010	1.000	
Career prospects	-0.024	-0.025	0.034	0.027	0.014	0.024	1.000

Egalitarian − Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	420	49.30	49.30	49.30
	2	Around 30 years old	432	50.70	50.70	100.00
	Total		852	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	278	32.63	32.63	32.63
	2	Same height as R.	280	32.86	32.86	65.49
	3	10 cm higher	294	34.51	34.51	100.00
	Total		852	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	280	32.86	32.86	32.86
	2	Average	292	34.27	34.27	67.14
	3	High	280	32.86	32.86	100.00
	Total		852	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	281	32.98	32.98	32.98
	2	Similar to R.	283	33.22	33.22	66.20
	3	Same as R.	288	33.80	33.80	100.00
	Total		852	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	292	34.27	34.27	34.27
	2	Bachelor Degree	281	32.98	32.98	67.25
	3	Master Degree	279	32.75	32.75	100.00
	Total		852	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	286	33.57	33.57	33.57
	2	Around 1000 euro	274	32.16	32.16	65.73
	3	Around 1500 euro	292	34.27	34.27	100.00
	Total		852	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	267	31.34	31.34	31.34
	2	Average	291	34.15	34.15	65.49
	3	Hight	294	34.51	34.51	100.00
	Total		852	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.015	1.000					
Face beauty	-0.014	-0.030	1.000				
Religious values	-0.002	0.003	-0.009	1.000			
Educational level	0.005	-0.001	0.041	0.004	1.000		
Monthly wealth	0.006	0.007	-0.023	-0.005	0.019	1.000	
Career prospects	0.041	0.004	0.020	-0.000	0.034	0.012	1.000

Less egalitarian – Female

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	309	50.99	50.99	50.99
	2	Around 30 years old	297	49.01	49.01	100.00
	Total		606	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	208	34.32	34.32	34.32
	2	Same height as R.	206	33.99	33.99	68.32
	3	10 cm higher	192	31.68	31.68	100.00
	Total		606	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	206	33.99	33.99	33.99
	2	Average	194	32.01	32.01	66.01
	3	High	206	33.99	33.99	100.00
	Total		606	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	205	33.83	33.83	33.83
	2	Similar to R.	203	33.50	33.50	67.33
	3	Same as R.	198	32.67	32.67	100.00
	Total		606	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	194	32.01	32.01	32.01
	2	Bachelor Degree	205	33.83	33.83	65.84
	3	Master Degree	207	34.16	34.16	100.00
	Total		606	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	200	33.00	33.00	33.00
	2	Around 1000 euro	212	34.98	34.98	67.99
	3	Around 1500 euro	194	32.01	32.01	100.00
	Total		606	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	219	36.14	36.14	36.14
	2	Average	195	32.18	32.18	68.32
	3	Hight	192	31.68	31.68	100.00
	Total		606	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.020	1.000					
Face beauty	0.020	0.042	1.000				
Religious values	0.002	-0.005	0.012	1.000			
Educational level	-0.006	0.003	-0.057	-0.005	1.000		
Monthly wealth	-0.008	-0.010	0.032	0.007	-0.027	1.000	
Career prospects	-0.059	-0.009	-0.027	-0.001	-0.045	-0.018	1.000

Not religious − Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	462	49.36	49.36	49.36
	2	Around 30 years old	474	50.64	50.64	100.00
	Total		936	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	321	34.29	34.29	34.29
	2	Same height as R.	309	33.01	33.01	67.31
	3	10 cm higher	306	32.69	32.69	100.00
	Total		936	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	303	32.37	32.37	32.37
	2	Average	314	33.55	33.55	65.92
	3	High	319	34.08	34.08	100.00
	Total		936	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	305	32.59	32.59	32.59
	2	Similar to R.	331	35.36	35.36	67.95
	3	Same as R.	300	32.05	32.05	100.00
	Total		936	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	314	33.55	33.55	33.55
	2	Bachelor Degree	308	32.91	32.91	66.45
	3	Master Degree	314	33.55	33.55	100.00
	Total		936	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	316	33.76	33.76	33.76
	2	Around 1000 euro	306	32.69	32.69	66.45
	3	Around 1500 euro	314	33.55	33.55	100.00
	Total		936	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	313	33.44	33.44	33.44
	2	Average	315	33.65	33.65	67.09
	3	Hight	308	32.91	32.91	100.00
	Total		936	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.033	1.000					
Face beauty	-0.021	-0.033	1.000				
Religious values	-0.004	0.024	0.003	1.000			
Educational level	-0.010	0.024	0.005	0.024	1.000		
Monthly wealth	-0.023	0.014	0.011	0.031	0.003	1.000	
Career prospects	0.007	0.011	-0.018	0.028	0.002	0.019	1.000

Religious – Male

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	267	51.15	51.15	51.15
	2	Around 30 years old	255	48.85	48.85	100.00
	Total		522	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	165	31.61	31.61	31.61
	2	Same height as R.	177	33.91	33.91	65.52
	3	10 cm higher	180	34.48	34.48	100.00
	Total		522	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	183	35.06	35.06	35.06
	2	Average	172	32.95	32.95	68.01
	3	High	167	31.99	31.99	100.00
	Total		522	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	181	34.67	34.67	34.67
	2	Similar to R.	155	29.69	29.69	64.37
	3	Same as R.	186	35.63	35.63	100.00
	Total		522	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	172	32.95	32.95	32.95
	2	Bachelor Degree	178	34.10	34.10	67.05
	3	Master Degree	172	32.95	32.95	100.00
	Total		522	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	170	32.57	32.57	32.57
	2	Around 1000 euro	180	34.48	34.48	67.05
	3	Around 1500 euro	172	32.95	32.95	100.00
	Total		522	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	173	33.14	33.14	33.14
	2	Average	171	32.76	32.76	65.90
	3	Hight	178	34.10	34.10	100.00
	Total		522	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.058	1.000					
Face beauty	0.037	0.062	1.000				
Religious values	0.007	-0.043	-0.005	1.000			
Educational level	0.019	-0.044	-0.009	-0.042	1.000		
Monthly wealth	0.043	-0.026	-0.020	-0.054	-0.006	1.000	
Career prospects	-0.011	-0.021	0.032	-0.048	-0.003	-0.035	1.000

Not religious − Female

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	443	50.57	50.57	50.57
	2	Around 30 years old	433	49.43	49.43	100.00
	Total		876	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	290	33.11	33.11	33.11
	2	Same height as R.	288	32.88	32.88	65.98
	3	10 cm higher	298	34.02	34.02	100.00
	Total		876	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	309	35.27	35.27	35.27
	2	Average	297	33.90	33.90	69.18
	3	High	270	30.82	30.82	100.00
	Total		876	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	311	35.50	35.50	35.50
	2	Similar to R.	281	32.08	32.08	67.58
	3	Same as R.	284	32.42	32.42	100.00
	Total		876	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	282	32.19	32.19	32.19
	2	Bachelor Degree	301	34.36	34.36	66.55
	3	Master Degree	293	33.45	33.45	100.00
	Total		876	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	294	33.56	33.56	33.56
	2	Around 1000 euro	288	32.88	32.88	66.44
	3	Around 1500 euro	294	33.56	33.56	100.00
	Total		876	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	301	34.36	34.36	34.36
	2	Average	283	32.31	32.31	66.67
	3	Hight	292	33.33	33.33	100.00
	Total		876	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	-0.025	1.000					
Face beauty	-0.016	-0.030	1.000				
Religious values	-0.018	0.012	0.005	1.000			
Educational level	-0.018	0.029	0.027	0.004	1.000		
Monthly wealth	0.000	-0.017	-0.014	0.008	-0.002	1.000	
Career prospects	0.010	-0.020	0.010	-0.019	0.002	-0.000	1.000

Religious – Female

eta — Age

			Freq.	Percent	Valid	Cum.
Valid	1	Same age as R.	286	49.14	49.14	49.14
	2	Around 30 years old	296	50.86	50.86	100.00
	Total		582	100.00	100.00	

altezza — Height

			Freq.	Percent	Valid	Cum.
Valid	1	10 cm shorter	196	33.68	33.68	33.68
	2	Same height as R.	198	34.02	34.02	67.70
	3	10 cm higher	188	32.30	32.30	100.00
	Total		582	100.00	100.00	

attrattivita — Face beauty

			Freq.	Percent	Valid	Cum.
Valid	1	Low	177	30.41	30.41	30.41
	2	Average	189	32.47	32.47	62.89
	3	High	216	37.11	37.11	100.00
	Total		582	100.00	100.00	

religione — Religious values

			Freq.	Percent	Valid	Cum.
Valid	1	Different from R.	175	30.07	30.07	30.07
	2	Similar to R.	205	35.22	35.22	65.29
	3	Same as R.	202	34.71	34.71	100.00
	Total		582	100.00	100.00	

titstud — Educational level

			Freq.	Percent	Valid	Cum.
Valid	1	High School Diploma	204	35.05	35.05	35.05
	2	Bachelor Degree	185	31.79	31.79	66.84
	3	Master Degree	193	33.16	33.16	100.00
	Total		582	100.00	100.00	

dispeco — Monthly wealth

			Freq.	Percent	Valid	Cum.
Valid	1	Around 600 euro	192	32.99	32.99	32.99
	2	Around 1000 euro	198	34.02	34.02	67.01
	3	Around 1500 euro	192	32.99	32.99	100.00
	Total		582	100.00	100.00	

proscar — Career prospects

			Freq.	Percent	Valid	Cum.
Valid	1	Low	185	31.79	31.79	31.79
	2	Average	203	34.88	34.88	66.67
	3	Hight	194	33.33	33.33	100.00
	Total		582	100.00	100.00	

Cross-correlation table

Variables	Age	Height	Face beauty	Religious values	Educational level	Monthly wealth	Career prospects
Age	1.000						
Height	0.038	1.000					
Face beauty	0.022	0.048	1.000				
Religious values	0.027	-0.017	-0.015	1.000			
Educational level	0.027	-0.044	-0.036	-0.004	1.000		
Monthly wealth	0.000	0.026	0.021	-0.013	0.003	1.000	
Career prospects	-0.015	0.032	-0.017	0.028	-0.002	-0.000	1.000

Estimates of the average marginal effects of vignette dimensions by face beauty level within each group – FATHER GRADUATED (Estimates in bold are significant at least at 95% level of confidence)

		Male model			Female model		
		Group 1	Group 2	Differences	Group 1	Group 2	Differences
Age	Same as R	**0.33**	**0.17**	-0.16	0.08	**0.24**	0.16
	Around 30 years old	**-0.33**	**-0.17**	0.16	-0.08	**-0.24**	-0.16
	10cm shorter than R	-0.03	**0.35**	**0.39**	**-0.76**	**-0.73**	0.04
Height	Same as R	**0.36**	0.06	**-0.31**	0.17	**0.41**	0.24
	10cm taller than R	**-0.33**	**-0.41**	-0.08	**0.59**	**0.32**	-0.27
	Low	**-1.25**	**-1.15**	0.10	**-1.07**	**-1.13**	-0.06
Facial Beauty	Average	-0.02	-0.03	-0.01	0.01	0.10	0.09
	High	**1.27**	**1.18**	-0.09	**1.06**	**1.03**	-0.03
	Different from R	-0.11	**-0.24**	-0.13	-0.18	**-0.42**	-0.24
Religious Values	Similar to R	0.05	0.20	0.15	-0.13	0.13	0.25
	Same as R	0.06	0.04	-0.02	**0.31**	**0.29**	-0.02
	High School Diploma	**-0.44**	**-0.24**	0.21	**-0.29**	-0.14	0.14
Educational Level	Bachelor Degree	-0.10	0.02	0.12	0.02	-0.12	-0.14
	Master Degree	**0.54**	0.22	**-0.33**	0.27	0.26	-0.01
	600 euro per month	**-0.29**	-0.14	0.16	**-0.48**	**-0.43**	0.05
Wealth	1000 euro per month	0.19	0.22	0.03	0.11	0.06	-0.04
	1600 euro per month	0.10	-0.09	-0.19	**0.37**	**0.37**	0.00
	Low	-0.14	**-0.26**	-0.12	**-0.66**	**-0.43**	0.24
Career Prospect	Average	-0.04	-0.18	-0.14	0.11	0.10	-0.01
	High	0.17	**0.44**	0.26	**0.56**	**0.33**	-0.23

Estimates of the average marginal effects of vignette dimensions by face beauty level within each group – HEIGHT (Estimates in bold are significant at least at 95% level of confidence)

		Male model			Female model		
		Group 1	Group 2	Differences	Group 1	Group 2	Differences
Age	Same as R	**0.35**	**0.25**	-0.10	**0.29**	0.07	**-0.23**
	Around 30 years old	**-0.35**	**-0.25**	0.10	**-0.29**	-0.07	**0.23**
	10cm shorter than R	**0.24**	0.09	-0.15	**-0.72**	**-0.79**	-0.07
Height	Same as R	0.16	0.16	0.00	**0.30**	**0.27**	-0.04
	10cm taller than R	**-0.40**	**-0.25**	0.15	**0.42**	**0.53**	0.11
	Low	**-1.14**	**-1.17**	-0.03	**-1.02**	**-1.04**	-0.01
Facial Beauty	Average	-0.07	0.06	0.13	0.03	0.07	0.04
	High	**1.21**	**1.11**	-0.10	**1.00**	**0.97**	-0.03
	Different from R	**-0.21**	**-0.31**	-0.09	**-0.35**	-0.07	**0.28**
Religious Values	Similar to R	0.04	0.05	0.02	-0.04	-0.06	-0.02
	Same as R	**0.18**	**0.25**	0.07	**0.39**	0.13	**-0.26**
	High School Diploma	**-0.31**	**-0.25**	0.06	**-0.23**	**-0.31**	-0.09
Educational Level	Bachelor Degree	-0.02	-0.11	-0.09	-0.08	0.11	0.19
	Master Degree	**0.32**	**0.36**	0.04	**0.31**	**0.20**	-0.11
	600 euro per month	**-0.32**	**-0.18**	0.14	**-0.40**	**-0.43**	-0.03
Wealth	1000 euro per month	**0.32**	-0.03	**-0.35**	0.09	0.10	0.01
	1600 euro per month	-0.01	**0.21**	0.22	**0.31**	**0.33**	0.02
	Low	-0.16	**-0.27**	-0.11	**-0.56**	**-0.49**	0.07
Career Prospect	Average	-0.07	0.00	0.07	0.04	0.14	0.10
	High	**0.23**	**0.27**	0.03	**0.53**	**0.35**	-0.17

Estimates of the average marginal effects of vignette dimensions by face beauty level within each group – MALE SUPREMACY (Estimates in bold are significant at least at 95% level of confidence)

		Male model			Female model		
		Group 1	Group 2	Differences	Group 1	Group 2	Differences
Age	Same as R	**0.37**	**0.25**	-0.12	**0.14**	**0.25**	0.11
	Around 30 years old	**-0.37**	**-0.25**	0.12	**-0.14**	**-0.25**	-0.11
Height	10cm shorter than R	0.08	**0.21**	0.13	**-0.81**	**-0.68**	0.13
	Same as R	0.18	**0.17**	-0.01	**0.34**	**0.24**	-0.10
	10cm taller than R	**-0.26**	**-0.37**	-0.11	**0.47**	**0.44**	-0.03
Facial Beauty	Low	**-1.20**	**-1.15**	0.05	**-1.02**	**-1.04**	-0.01
	Average	0.07	-0.04	-0.11	0.13	-0.08	-0.21
	High	**1.13**	**1.19**	0.06	**0.89**	**1.12**	0.23
Religious Values	Different from R	**-0.29**	**-0.23**	0.06	**-0.23**	**-0.19**	0.04
	Similar to R	0.11	0.00	-0.11	-0.10	0.01	0.11
	Same as R	0.18	**0.23**	0.05	**0.33**	**0.18**	-0.15
Educational Level	High School Diploma	**-0.34**	**-0.25**	0.09	**-0.30**	**-0.26**	0.05
	Bachelor Degree	-0.07	-0.06	0.01	0.06	-0.02	-0.08
	Master Degree	**0.41**	**0.32**	-0.10	**0.25**	**0.28**	0.03
Wealth	600 euro per month	**-0.32**	**-0.19**	0.13	**-0.39**	**-0.44**	-0.05
	1000 euro per month	0.12	0.15	0.03	0.07	0.13	0.06
	1600 euro per month	**0.21**	0.04	-0.16	**0.32**	**0.32**	-0.01
Career Prospect	Low	**-0.28**	**-0.19**	0.10	**-0.51**	**-0.54**	-0.03
	Average	0.03	-0.07	-0.10	0.09	0.08	-0.01
	High	**0.25**	**0.25**	0.00	**0.42**	**0.46**	0.04

Estimates of the average marginal effects of vignette dimensions by face beauty level within each group – RELIGIOSITY (Estimates in bold are significant at least at 95% level of confidence)

		Male model			Female model		
		Group 1	Group 2	Differences	Group 1	Group 2	Differences
Age	Same as R	**0.26**	**0.39**	0.13	**0.25**	0.09	-0.17
	Around 30 years old	**-0.26**	**-0.39**	-0.13	**-0.25**	-0.09	0.17
Height	10cm shorter than R	0.11	**0.26**	0.15	**-0.80**	**-0.68**	0.12
	Same as R	0.12	**0.25**	0.13	**0.25**	**0.35**	0.09
	10cm taller than R	-0.23	**-0.50**	**-0.28**	**0.55**	**0.33**	-0.21
Facial Beauty	Low	**-1.25**	**-1.04**	0.20	**-0.95**	**-1.16**	-0.21
	Average	0.09	-0.16	-0.25	0.00	0.10	0.09
	High	**1.16**	**1.20**	0.04	**0.94**	**1.06**	0.12
Religious Values	Different from R	**-0.31**	-0.15	0.17	**-0.18**	**-0.25**	-0.07
	Similar to R	0.11	-0.09	-0.20	0.02	-0.15	-0.17
	Same as R	**0.20**	**0.24**	0.03	**0.16**	**0.40**	**0.24**
Educational Level	High School Diploma	**-0.31**	**-0.26**	0.04	**-0.17**	**-0.39**	-0.23
	Bachelor Degree	-0.09	-0.02	0.08	-0.04	0.10	0.14
	Master Degree	**0.40**	**0.28**	-0.12	**0.20**	**0.29**	0.09
Wealth	600 euro per month	**-0.20**	**-0.32**	-0.11	**-0.40**	**-0.42**	-0.03
	1000 euro per month	0.13	0.16	0.03	0.01	0.18	0.17
	1600 euro per month	0.07	0.15	0.08	**0.39**	0.25	-0.14
Career Prospect	Low	**-0.17**	**-0.30**	-0.14	**-0.58**	**-0.46**	0.12
	Average	-0.07	0.04	0.11	0.11	0.07	-0.03
	High	**0.23**	**0.26**	0.03	**0.47**	**0.38**	-0.08

Bibliography

Aguinis, H. and Bradley, K.J.

   2014   "Best practice recommendations for designing and implementing experimental vignette methodology studies", *Organizational Research Methods*, 17, n. 4, pp. 351-371. [Cit. on pp. 58-60, 65.]

Aiman-Smith, L., Scullen, S.E., and Barr, S.H.

   2002   "Conducting studies of decision making in organizational contexts: A tutorial for policy-capturing and other regression-based techniques", *Organizational Research Methods*, 5, n. 4, pp. 388-414. [Cit. on p. 57.]

Altintas, E. and Sullivan, O.

   2016   "Fifty years of change updated: Cross-national gender convergence in housework", *Demographic Research*, 35, n. 16, pp. 455-470. [Cit. on p. 6.]

Anderson, D.J., Binder, M., and Krause, K.

   2002   "The motherhood wage penalty: Which mothers pay it and why?", *The American Economic Review*, 92, n. 2, pp. 354-358. [Cit. on pp. 6, 13.]

Asendorpf, J.B., Penke, L., and Back, M.D.

   2011   "From dating to mating and relating: Predictors of initial and long-term outcomes of speed-dating in a community sample", *European Journal of Personality*, 25, pp. 16-30. [Cit. on pp. 11, 50.]

Auspurg, K. and Hinz, T.

   2014   *Factorial Survey Experiments*, Quantitative Application in the Social Sciences, 175, Thousand Oaks: SAGE Publications. [Cit. on pp. 53, 57-59, 64, 65, 68, 78.]

Auspurg, K., Hinz, T., and Liebig, S.

2009   "Complexity, learning effects, and plausibility of vignettes in factorial surveys". [Cit. on pp. 60, 64.]

Auspurg, K., Hinz, T., and Sauer, C.

2017   "Why should women get less? Evidence on the gender pay gap from multifactorial survey experiments", *American Sociological Review*, 62, n. 1, pp. 179-210. [Cit. on p. 58.]

Auspurg, K., Iacovou, M., and Nicoletti, C.

2017   "Housework share between partners: Experimental evidence on gender-specific preferences", *Social Science Research*. [Cit. on pp. 58, 59.]

Auspurg, K. and Jäckle, A.

2017   "First equals most important? Order effects in vignette-based measurement", *Sociological Methods & Research*, 46, n. 3, pp. 490-539. [Cit. on pp. 58, 64.]

Aviram, H.

2012   "What would you do? Conducting web-based factorial vignette surveys", in *Handbook of Survey Methodology for the Social Sciences*, ed. by L. Gideon, New York: Springer, pp. 463-473. [Cit. on p. 66.]

Badahdah, A.M. and Tiemann, K.A.

2005   "Mate selection criteria among Muslims living in America", *Evolution and Human Behavior*, 26, pp. 432-440. [Cit. on p. 50.]

Bainbridge, W.A., Isola, P., and Oliva, A.

2013   "The intrinsic memorability of face photographs", *Journal of Experimental Psychology: General*, 142, n. 4, pp. 1323-1334. [Cit. on pp. 61, 73.]

Barclay, P. and Mudd Hall, S.G.

2010   "Altruism as a courtship display: Some effects of third-party generosity on audience perceptions", *British Journal of Psychology*, 101, pp. 123-135. [Cit. on p. 51.]

Barkow, J.H.

2006   "Introduction: Sometimes the Bus Does Wait", in *Missing the Revolution: Darwinism for Social Scientists*, ed. by J.H. Barkow, Oxford: Oxford University Press, pp. 3-59. [Cit. on p. 38.]

Bateman, A.J.

  1948   "Intra-sexual selection in Drosophila", *Heredity*, 2, pp. 349-368. [Cit. on p. 31.]

Bavel, J.V., Schwartz, C.R., and Esteve, A.

  2018   "The reversal of the gender gap in education and its consequences for family life", *Annual Review of Sociology*, 44, n. 22. [Cit. on pp. 2, 6, 19, 27, 53.]

Becker, G.S.

  1974   "A Theory of Marriage", in *Economics of the Family: Marriage, Children, and Human Capital*, University of Chicago Press, pp. 299-351. [Cit. on pp. 1, 2, 17-22, 25.]

Bereczkei, T. and Csanaky, A.

  1996   "Mate choice, marital success, and reproduction in a modern society", *Ethology and Sociobiology*, 17, pp. 17-35. [Cit. on p. 47.]

Bertrand, M., Cortés, P., Olivetti, C., and Pan, J.

  2016   "Social norms, labor market opportunities, and the marriage gap for skilled women". [Cit. on p. 6.]

Biddle, J.E. and Hamermesh, D.S.

  1998   "Beauty,productivity, and iscrimination: Lawyers' looks and lucre", *Journal of Labor Economics*, 16, n. 1, pp. 172-201. [Cit. on p. 62.]

Blau, F.D., Brummund, P., Yung-Hsu Liu, A., Blau, F.D., Brummund, P., and Y-H Liu, A.

  2013   "Trends in occupational segregation by gender 1970–2009: Adjusting for the impact of changes in the occupational coding system", *Demography*, 50, pp. 471-492. [Cit. on p. 6.]

Blau, P.M.

  1964   *Exchange and Power in Social Life*, New York: John Wiley. [Cit. on pp. 17, 18, 20-22.]

Blau, P.M., Blum, T.C., Schwartz, J.E., and Intermarriage, H.A.

  1982   "Heterogeneity and intermarriage", *American Sociological Review*, 47, n. 1, pp. 45-62. [Cit. on p. 20.]

Blossfeld, H.-P.

2009   "Educational assortative marriage in comparative perspective", *Annual Review of Sociology*, 35, n. 1 (Aug. 2009), pp. 513-530. [Cit. on pp. 4, 5, 20, 53.]

Blossfeld, H.-P. and Bierschock, K.P.

2011   "Online dating: Social innovation and a tool for research on partnership formation", *Zeitschrift Fur Familienforschung*, 23, n. 3, p. 262. [Cit. on p. 49.]

Blossfeld, H.-P. and Timm, A.

2003   *Who marries whom? Educational systems as marriage markets in modern societies*, European Studies of Population. [Cit. on pp. 4, 5, 19, 20.]

Blossfeld, H.-P., Timm, A., and Dasko, F.

1998   "The educational system as a marriage market: A longitudinal analysis of marriage in the life course". [Cit. on p. 27.]

Bolhuis, J.J., Brown, G.R., Richardson, R.C., and Laland, K.N.

2011   "Darwin in mind: New opportunities for evolutionary psychology", *PLoS Biology*, 9, n. 7. [Cit. on pp. 2, 33, 34, 39, 40.]

Borgerhoff Mulder, M.

2004   "Are men and women really so different?", *Trends in Ecology and Evolution*, 19, n. 1, pp. 3-5. [Cit. on p. 40.]

Botwin, M.D., Buss, D.M., and Shackelford, T.K.

1997   "Personality and mate preferences: Five factors in mate selection and marital satisfaction", *Journal of Personality*, 65, n. 1, pp. 107-136. [Cit. on p. 12.]

Boyd, R. and Silk, J.B.

2006   *How Humans Evolved*, IV ed. New York: W.W. Norton and Company. [Cit. on pp. 2, 29, 32, 33, 47.]

Boyd, R., Richerson, P.J., and Henrich, J.

2011   "The cultural niche: Why social learning is essential for human adaptation", *Proceedings of the National Academy of Sciences of the United States of America*, 108, n. suppl. 2, pp. 10918-10925. [Cit. on p. 35.]

Brambor, T., Clark, W.R., and Golder, M.

2006   "Understanding interaction models: Improving empirical analyses", *Political Analysis*, 14, n. 1, pp. 63-82. [Cit. on p. 71.]

Breen, R., Cooke, L.P., Breen, R., and Cooke, L.P.

2005   "The persistence of the gendered division of domestic labour", *European Sociological Review*, 21, n. 1, pp. 43-57. [Cit. on p. 28.]

Brewster, K.L. and Padavic, I.

2000   "Change in gender-ideology, 1977-1996: The contributions of intra-cohort change and population turnover", *Journal of Marriage and Family*, 62, n. 2, pp. 477-487. [Cit. on p. 28.]

Brooks, C. and Bolzendahl, C.

2004   "The transformation of US gender role attitudes: cohort replacement, social-structural change, and ideological learning", *Social Science Research*, 33, pp. 106-133. [Cit. on p. 28.]

Brown, G.R. and Richerson, P.J.

2014   "Applying evolutionary theory to human behaviour: Past differences and current debates", *Journal of Bioeconomics*, 16, n. 2, pp. 105-128. [Cit. on pp. 2, 3, 33, 34, 38, 40.]

Brown, G.R., Dickins, T.E., Sear, R., and Laland, K.N.

2011   "Evolutionary accounts of human behavioural diversity", *Phil. Trans. R. Soc. B*, 366, pp. 313-324. [Cit. on p. 33.]

Brown, G.R., Laland, K.N., and Mulder, M.B.

2009   "Bateman's principles and human sex roles", *Trends in Ecology and Evolution*, 24, n. 6, pp. 297-302. [Cit. on p. 46.]

Budig, M.J., Misra, J., and Boeckmann, I.

2012   "The motherhood penalty in cross-national perspective: The importance of work-family policies and cultural attitudes", *Social Politics*, 19, n. 2, pp. 163-193. [Cit. on p. 6.]

Buss, D.M.

2012   *Psicologia Evoluzionista*, ed. by A. Tartabini, V Edizione, Pearson Italia. [Cit. on pp. 33, 34.]

Buss, D.M.

1989 "Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures", *Behavioral and Brain Sciences*, 12, pp. 1-14. [Cit. on pp. 7-9, 37, 49, 53.]

Buss, D.M. and Schmitt, D.P.

1993 "Sexual strategies theory: An evolutionary perspective on human mating", *Psychological review*, 100, n. 2, pp. 204-232, arXiv: `arXiv: 0802.3216v2`. [Cit. on pp. 12, 36.]

2019 "Mate Preferences and Their Behavioral Manifestations", *Annual Review of Psychology*, 70, n. 1, annurev–psych–010418-103408. [Cit. on pp. 2, 3, 36.]

Buss, D.M. and Shackelford, T.K.

2008 "Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment", *Evolutionary Psychology*, 6, n. 1, pp. 134-146. [Cit. on p. 12.]

Buss, D.M. and Barnes, M.

1986 "Preferences in human mate selection", *Journal of Personality and Social Psychology*, 50, pp. 559-570. [Cit. on p. 13.]

Buss, D.M., Shackelford, T.K., Kirkpatrick, L.A., and Larsen, R.J.

2001 "A halfcentury of mate preferences: The cultural evolution of values", *Journal of Marriage and Family*, 63, pp. 491-503. [Cit. on pp. 2, 8, 13, 27.]

Buunk, B.P., Dijkstra, P., Kenrick, D.T., and Warntjes, A.

2001 "Age preferences for mates as related to gender, own age, and involvement level", *Evolution and Human Behavior*, 22, n. 4, pp. 241-250. [Cit. on pp. 9, 12, 45.]

Carlson, D.L., Hanson, S., and Fitzroy, A.

2016 "The division of child care, sexual intimacy, and relationship quality in couples", *Gender and Society*, 30, n. 3, pp. 442-466. [Cit. on p. 26.]

Carlson, D.L., Miller, A.J., Sassler, S., and Hanson, S.

2016 "The gendered division of the housework and couples' sexual relationships: A reexamination", *Journal of Marriage & Family*, 78, pp. 975-995. [Cit. on p. 26.]

Carmalt, J.H., Cawley, J., Joyner, K., and Sobal, J.

2008   "Body weight and matching with a physically attractive romantic partner", *Journal of Marriage and Family*, 70, n. 5, pp. 1287-1296. [Cit. on pp. 4, 24, 47.]

Cavalli-Sforza, L.L. and Feldman, M.W.

1981   *Cultural Transmission and Evolution: A Quantitative Approach*, Princeton, NJ: Princeton University Press. [Cit. on p. 35.]

Cavelaars, A.E.J.M., Kunst, A.E., Geurts, J.J.M., Crialesi, R., Grötvedt, L., Helmert, U., Lahelma, E., Lundberg, O., Mielck, A., Rasmussen, N.K., Regidor, E., Spuhler, T., Mackenbach, J.P., Ielck, A.M., Asmussen, N.K.R., Egidor, E.R., and Spuhler, T.H.

2000   "Persistent variations in average height between countries and between socio-economic groups: An overview of 10 European countries", *Annals of Human Biology*, 27, n. 4, pp. 407-421. [Cit. on p. 43.]

Chappetta, K.C. and Barth, J.M.

2016   "How gender role stereotypes affect attraction in an online dating scenario", *Computers in Human Behavior*, 63, pp. 738-746. [Cit. on pp. 8, 14, 49, 51, 60.]

Charles, M. and Bradley, K.

2009   "Indulging our gendered selves? Sex segregation by field of study in 44", *American Journal of Sociology*, 114, n. 4, pp. 924-976. [Cit. on pp. 6, 28.]

Choi, K.H. and Tienda, M.

2016   "Marriage-market constraints and mate-selection behavior: Racial, ethnic, and gender differences in intermarriage", *Journal of Marriage and Family*. [Cit. on p. 23.]

Colleran, H.

2016   "The cultural evolution of fertility decline", *Phil. Trans. R. Soc. B*, 371, n. 20150152. [Cit. on p. 35.]

Confer, J.C., Perilloux, C., and Buss, D.M.

2010   "More than just a pretty face: Men's priority shifts toward bodily attractiveness in short-term versus long-term mating contexts", *Evolution and Human Behavior*, 31, n. 5, pp. 348-353. [Cit. on p. 12.]

Cotter, D. and Hermsen, J.M.

2011 "The end of the gender revolution? Gender role attitudes from 1977 to 2008", *American Journal of Sociology*, 117, n. 1, pp. 259-289. [Cit. on p. 28.]

Courtiol, A., Raymond, M., Godelle, B., and Ferdy, J.-B.

2010 "Mate choice and human stature: Homogamy as a unified framework for understanding mating preferences", *Evolution*, 64, n. 8, pp. 2183-2203. [Cit. on p. 9.]

Cumming, G.

2009 "Inference by eye: Reading the overlap of independent confidence intervals ‡", *STATISTICS IN MEDICINE Statist. Med*, 28, pp. 205-220. [Cit. on p. 81.]

Currie, T.E. and Little, A.C.

2009 "The relative importance of the face and body in judgments of human physical attractiveness", *Evolution and Human Behavior*, 30, n. 6, pp. 409-416. [Cit. on pp. 45, 61.]

Davis, S.N. and Greenstein, T.N.

2009 "Gender ideology: Components, predictors, and consequences", *Annual Review of Sociology*, 35, pp. 87-105. [Cit. on pp. 27, 28.]

Davis, S.

1990 "Men as success objects and women as sex objects: A study of personal advertisements", *Sex Roles*, 23, pp. 43-50. [Cit. on p. 50.]

De Hauw, Y., Grow, A., and Bavel, J.V.

2017 "The reversed gender gap in education and assortative mating in Europe", *European Journal of Population Abstract*, 33, pp. 445-474. [Cit. on pp. 5, 6, 47.]

De Vries, J.M.A.

2010 "Impact of self-descriptions and photographs on mediated dating interest", *Marriage & Family Review*, 46, n. 8, pp. 538-562. [Cit. on p. 8.]

Deaux, K. and Hanna, R.

1984 "Courtship in the personal colums: The influence of gender and sexual orientation", *Sex Roles*, 11, n. 5, pp. 363-375. [Cit. on p. 50.]

Debruine, L.M., Jones, B.C., and Perrett, D.I.

2005 "Women's attractiveness judgments of self-resembling faces change across the menstrual cycle", *Hormones and Behavior*, 47, pp. 379-383. [Cit. on p. 12.]

Dillard, J.R. and Westneat, D.F.

2016 "Disentangling the correlated evolution of monogamy and cooperation", *Trends in Ecology & Evolution*, 31, n. 7, pp. 503-513. [Cit. on p. 46.]

Dimaggio, P. and Mohr, J.

1985 "Cultural capital, educational attainment, and marital selection", *American Journal of Sociology*, 90, n. 6, pp. 1231-1261. [Cit. on pp. 1, 22.]

Diprete, T.A. and Buchmann, C.

2006 "Gender-specific trends in the value of education and the emerging gender gap in college completion", *Demography*, 43, n. 1, pp. 1-24. [Cit. on p. 5.]

Dixson, A.F.

2009 *Sexual Selection and the Origins of Human Mating Systems*, Oxford: Oxford University Press. [Cit. on pp. 32, 33, 39, 42, 43, 45.]

Dixson, B.J.W., Lee, A.J., Sherlock, J.M., and Talamas, S.N.

2017 "Beneath the beard: Do facial morphometrics influence the strength of judgments of men's beardedness?", *Evolution and Human Behavior*, 38, n. 2, pp. 164-174. [Cit. on p. 44.]

Dixson, B.J. and Vasey, P.L.

2012 "Beards augment perceptions of men's age, social status, and aggressiveness, but not attractiveness", *Behavioral Ecology*, 23, n. 3, pp. 481-190. [Cit. on p. 44.]

Domingue, B.W., Fletcher, J., Conley, D., and Boardman, J.D.

2014 "Genetic and educational assortative mating among US adults", *Proceedings of the National Academy of Sciences of the United States of America*, 111, n. 22, pp. 7996-8000. [Cit. on p. 4.]

Dorius, S.F. and Alwin, D.F.

2010 "The global development of egalitarian beliefs—A Decomposition of Trends in the Nature and Structure of Gender Ideology". [Cit. on p. 28.]

Dotti Sani, G.M.

2015 "Within-couple inequality in earnings and the relative motherhood penalty. A cross-national study of European countries", *European Sociological Review*, 31, n. 6, pp. 667-682. [Cit. on p. 6.]

Dülmer, H.

2007 "Experimental plans in factorial surveys: Random or quota design?", *Sociological Methods & Research*, 35, n. 3, pp. 382-409. [Cit. on pp. 57, 58, 64.]

2016 "The factorial survey: Design selection and its impact on reliability and internal validity", *Sociological Methods & Research*, 45, n. 2, pp. 304-347. [Cit. on pp. 58, 64.]

Eagly, A.H. and Wood, W.

1999 "The origins of sex differences in human behavior: Evolved dispositions versus social roles", *American Psychologist*, 54, pp. 408-423. [Cit. on pp. 2, 13, 41, 53.]

Eastwick, P.W., Eagly, A.H., Glick, P., Johannesen-Schmidt, M.C., Fiske, S.T., Blum, A.M.B., Eckes, T., Freiburger, P., Huang, L.L., Ferndez, M.L., Manganelli, A.M., Pek, J.C.X., Castro, Y.R., Sakalli-Ugurlu, N., Six-Materna, I., and Volpato, C.

2006 "Is traditional gender ideology associated with sex-typed mate preferences? A test in nine nations", *Sex Roles*, 54, n. 9-10, pp. 603-614. [Cit. on p. 53.]

Eastwick, P.W., Luchies, L.B., Finkel, E.J., and Hunt, L.L.

2014 "The predictive validity of ideal partner preferences: A review and meta-analysis", *Psychological bulletin*, 140, n. 3, pp. 623-65. [Cit. on pp. 14, 49.]

Eastwick, P.W. and Finkel, E.J.

2008 "Sex differences in mate preferences revisited: Do people know what they initially desire in a romantic partner?", *Journal of Personality and Social Psychology*, 94, n. 2, pp. 245-264. [Cit. on pp. 11, 50.]

Edwards, J.N.

    1969   "Familial behavior as social exchange", *Journal of Marriage and Family*, 31, n. 3, pp. 518-526. [Cit. on p. 17.]

Elder, G.H.

    1969   "Appearance and education in marriage mobility", *American Sociological Review*, 34, n. 4, pp. 519-533. [Cit. on pp. 17, 24.]

Emerson, R.M.

    1976   "Social exchange theory", *Annual Reviews*, 2, pp. 335-362. [Cit. on pp. 17, 18.]

England, P.

    2008   "Toward gender equality: Progress and bottlenecks", in *The Declining Significance of Gender?*, ed. by F.D. Blau, M.C. Briton, and D.B. Grusky, New York: Russel Sage Foundation, pp. 245-264. [Cit. on p. 28.]

Esteve, A., Schwartz, C.R., Bavel, J.V., Permanyer, I., Klesment, M., and Garcia, J.

    2016   "The end of hypergamy: Global trends and implications", *Population and Development Review*, 42, n. 4. [Cit. on pp. 5, 6.]

Fales, M.R., Frederick, D.A., Garcia, J.R., Gildersleeve, K.A., Haselton, M.G., and Fisher, H.E.

    2016   "Mating markets and bargaining hands: Mate preferences for attractiveness and resources in two national U.S. studies", *Personality and Individual Differences*, 88, pp. 78-87. [Cit. on pp. 9, 49.]

Feinberg, D., Moore, F., Jones, B., Stirrat, M., Cornwell, R., Perrett, D., Boothroyd, L., Whiten, S., Pitman, R., Durrani, S., Law Smith, M., and Hillier, S.

    2005   "Facial appearance is a cue to oestrogen levels in women", *Proceedings of the Royal Society B: Biological Sciences*, 273, n. 1583, pp. 135-140. [Cit. on pp. 12, 44.]

Feliciano, C., Robnett, B., and Komaie, G.

    2008   "Gendered racial exclusion among white internet daters", *Social Science Research*, 38, pp. 39-54. [Cit. on pp. 7, 49.]

Fieder, M. and Huber, S.

2007 "The effects of sex and childlessness on the association between status and reproductive output in modern society", *Evolution and Human Behavior*, 28, pp. 392-398. [Cit. on p. 46.]

Fieder, M., Huber, S., Bookstein, F.L., Iber, K., Scha, K., Winckler, G., and Wallner, B.

2005 "Status and reproduction in humans: New evidence for the validity of evolutionary explanations on basis of a university sample", *Ethology*, 111, pp. 940-950. [Cit. on p. 46.]

Fisman, R., Iyengar, S.S., Kamenica, E., and Simonson, I.

2006 "Gender differences in mate selection: Evidence from a speed dating experiment", *The Quarterly Journal of Economics*, 121, n. 2, pp. 673-697. [Cit. on pp. 8, 11, 50.]

Fisman, R., Iyengar, S.S., Kamenica, E., and Simonson, I.

2008 "Racial preferences in dating", *Review of Economic Studies*, 75, pp. 117-132. [Cit. on p. 50.]

Fletcher, G.J.O., Tither, J.M., O'Loughlin, C., Friesen, M., and Overall, N.

2004 "Warm and homely or cold and beautiful? Sex differences in trading off traits in mate selection", *Personality and Social Psychology Bulletin*, 30, n. 6 (June 2004), pp. 659-672. [Cit. on p. 51.]

Foley, R.

1995 "The adaptive legacy of human evolution: A search for the environment of evolutionary adaptedness", *Evolutionary Anthropology: Issues, News, and Reviews*, 4, n. 6 (June 1995), pp. 194-203. [Cit. on p. 39.]

Freese, J.

2008 "The limits of evolutionary psychology and the open-endedness of social possibility", *Sociologica. Italian Journal of Sociology Online*, 3, pp. 1-12. [Cit. on p. 40.]

Fu, V.K.

2001 "Racial intermattiage pairings", *Demography*, 38, n. 2, pp. 147-159. [Cit. on p. 23.]

Furnham, A.

  2009   "Sex differences in mate selection preferences", *Personality and Individual Differences*, 47, pp. 262-267. [Cit. on pp. 7, 8, 49.]

Fuwa, M.

  2004   "Macro-level gender inequality and the division of household labor in 22 coutries", *American Sociological Review*, 69, n. 6, pp. 751-767. [Cit. on p. 28.]

Gangestad, S.W., Garver-Apgar, C.E., Simpson, J.A., and Cousins, A.J.

  2007   "Changes in women's mate preferences across the ovulatory cycle", *Journal of Personality and Social Psychology*, 92, n. 1, pp. 151-163. [Cit. on p. 12.]

Gangestad, S.W. and Simpson, J.A.

  2000   "The evolution of human mating: Trade-offs and strategic pluralism", *Behavioral and Brain Sciences*, 23, n. 4 (Aug. 2000), pp. 573-644. [Cit. on pp. 37, 38.]

Gat, A.

  2015   "Proving communal warfare among hunter-gatherers: The quasi-rousseauan error", *Evolutionary Anthropology*, 24, n. 3, pp. 111-126. [Cit. on p. 42.]

Geary, D.C., Vigil, J., and Byrd-Craven, J.

  2004   "Evolution of human mate choice", *The Journal of Sex Research*, 41, n. 1, pp. 27-42. [Cit. on pp. 2, 8.]

Gelman, A. and Hill, J.

  2007   *Data Analysis Using Regression and Multilevel/Hierarchical Models*, Cambridge: Cambridge University Press. [Cit. on p. 70.]

Gigerenzer, G., Todd, P.M., and ABC Research Group

  1999   *Simple Heuristics That Make Us Smart*, New York: Oxford University Press. [Cit. on p. 21.]

Glick, P., Mcclellan, M., Rivas, D., Cobb, A., Silva, R.H., Honikman, J., Grace, R., Casarjian, A., Goldstein, D., Wilson, M., Yurfest, L., and Fiske, S.T.

  1996   "The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism." *Journal of Personality and Social Psychology*, 70, n. 3, pp. 491-512. [Cit. on p. 14.]

Gonalons-Pons, P. and Schwartz, C.R.

2017   "Trends in economic homogamy: Changes in assortative mating or the division of labor in marriage?", *Demography*, 54, n. 3 (June 2017), pp. 985-1005. [Cit. on pp. 4-6.]

Goode, E.

1996   "Gender and Courtship Entitlement: Responses to Personal Ads I", *Sex Roles*, 34, pp. 141-169. [Cit. on pp. 26, 50.]

Goodman, A., Koupil, I., and Lawson, D.W.

2012   "Low fertility increases descendant socioeconomic position but reduces long-term fitness in a modern post-industrial society", *Proceedings of the Royal Society of London B: Biological Sciences*, 279, n. 1746, pp. 4342-4351. [Cit. on p. 35.]

Gowaty, P.

2012   (ed.), *Feminism and Evolutionary Biology: Boundaries, Intersections and Frontiers*, New York: Springer. [Cit. on p. 40.]

Greenlees, I. and McGrew, W.C.

1994   "Sex and age differences in preferences and tactics of mate attraction: Analysis of published advertisements", *Ethology and Sociobiology*, 15, pp. 59-72. [Cit. on p. 50.]

Greenwood, J., Guner, N., Kocharkov, G., and Santos, C.

2014   "Marry your like: Assortative mating and income inequality", *American Economic Review: Papers & Proceedings*, 104, n. 5, pp. 348-353. [Cit. on p. 6.]

Greitemeyer, T.

2007   "What do men and women want in a partner? Are educated partners always more desirable?", *Journal of Experimental Social Psychology*, 43, pp. 180-194. [Cit. on pp. 11, 12, 14, 51, 52, 60.]

Grow, A. and Van Bavel, J.

2015   "Assortative mating and the reversal of gender inequality in education in Europe: An agent-based model", *PLoS ONE*. [Cit. on p. 20.]

Grusky, D.B. and Levanon, A.

2008   "Four gloomy futures for sex segregation", in *Social Stratification: Class, Race, and Gender in Sociological Perspective*, ed. by D.B. Grusky, K. Manwai, and S. Szelényi, Boulder, Colo.: Westview Press, pp. 812-825. [Cit. on p. 28.]

Gullickson, A.

2017   "Comments on conceptualizing and measuring the exchange of beauty and status", *American Sociological Review*, 82, n. 5, pp. 1093-1099. [Cit. on p. 24.]

Gullickson, A. and Fu, V.K.

2010   "Comment: An endorsement of exchange theory in mate selection", *American Journal of Sociology*, 115, n. 4, pp. 1243-1251. [Cit. on p. 23.]

Gustavsson, L., Johnsson, J.I., and Uller, T.

2008   "Mixed support for sexual selection theories of mate preferences in the Swedish population", *Evolutionary Psychology*, 6, n. 4, pp. 575-585. [Cit. on p. 50.]

Ha, T., Overbeek, G., and Engels, R.C.M.E.

2010   "Effects of attractiveness and social status on dating desire in heterosexual adolescents: An experimental study", *Archives of Sexual Behavior*, 39, n. 5 (Oct. 2010), pp. 1063-1071. [Cit. on pp. 11, 51, 52.]

Hainmueller, J. and Hopkins, D.J.

2015   "The hidden American immigration consensus: A conjoint analysis of attitudes toward immigrants", *American Journal of Political Sciences*, 59, n. 3, pp. 529-548. [Cit. on pp. 57, 59.]

Hainmueller, J., Hopkins, D.J., and Yamamoto, T.

2014   "Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments", *Political Analysis*, 22, pp. 1-30. [Cit. on pp. 58, 59.]

Hakim, C.

2010   "Erotic Capital", *European Sociological Review*, 26, n. 5, pp. 499-518. [Cit. on pp. 24, 25.]

2015   "The male sexual deficit: A social fact of the 21st century", *International Sociology*, 30, n. 3, pp. 314-335. [Cit. on p. 24.]

Hamermesh, D.S. and Biddle, J.E.

1994 "Beauty and the labor market", *National Beureu*, 84, n. 5, pp. 1174-1193. [Cit. on p. 45.]

Hamilton, W.D.

1964 "The genrical evolution of social behaviour. II", *Journal of Theoretical Biology*, 7, pp. 17-52. [Cit. on p. 30.]

Henrich, J., Boyd, R., and Richerson, P.J.

2012 "The puzzle of monogamous marriage", *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 367, n. 1589, pp. 657-669. [Cit. on p. 46.]

Hill, A.K., Hunt, J., Welling, L.L.M., Cárdenas, R.A., Rotella, M.A., Wheatley, J.R., Dawood, K., Shriver, M.D., and Puts, D.A.

2013 "Quantifying the strength and form of sexual selection on men's traits", *Evolution and Human Behavior*, 34, pp. 334-341. [Cit. on p. 44.]

Hill, K.R. and Hurtado, A.M.

1996 *Ache life history: The ecology and demography of a foraging people*, Transaction Publishers. [Cit. on p. 46.]

Hitsch, G.J., Hortaçsu, A., and Ariely, D.

2010 "Matching and sorting in online dating", *American Economic Review*, 100, n. 1, pp. 130-163. [Cit. on pp. 2, 8-10, 22, 49.]

Hitsch, G.J., Hortaçsu, A., and Ariely, D.

2006 "What makes you click? Mate preferences and matching outcomes in online Datind". [Cit. on pp. 62, 65.]

Homans, G.C.

1961 *Social Behavior: Its Elementary Forms*, ed. by R.K. Merton. [Cit. on pp. 17, 18, 21, 22.]

Hook, J.L.

2006 "Care in context: Men's unpaid work in 20 countries, 1965-2003", *American Sociological Review*, 71, n. 4, pp. 639-660. [Cit. on p. 28.]

Hopcroft, R.L.

2006   "Sex, status, and reproductive success in the contemporary United States", *Evolution and Human Behavior*, 27, pp. 104-120. [Cit. on p. 46.]

Hopcroft, R.L.

2018   "Why Sociology Should Incorporate Biology", in *Oxford Handbook of Evolution, Biology, and Society*, ed. by R.L. Hopcroft, Oxford University Press. [Cit. on pp. 3, 29.]

Hox, J.J., Kreft, I.G.G., and Hermkens, P.L.J.

1991   "The analysis of factorial surveys", *Sociological Methods & Research*, 19, n. 4, pp. 493-510. [Cit. on p. 58.]

Hrdy, S.B.

1997   "Raising Darwin's consciousness: Female sexuality and the prehominid origins of patriarchy", *Human Nature*, 8, n. 1, pp. 1-49. [Cit. on p. 40.]

2006a   "Empathy, polyandry, and the myth of the coy female", *Conceptual Issues in Evolutionary Biology*, pp. 131-159. [Cit. on p. 41.]

2006b   "The optimal number of fathers: Evolution, demography, and history in the shaping of female mate preferences", *Annals of the New York Academy of Sciences*, 907, n. 1, pp. 75-96. [Cit. on p. 40.]

ISTAT

2013   *Health conditions and use of health services*, Data file, Milano: UniData - Bicocca Data Archive. [Cit. on p. 75.]

Jann, B.

2006   *DEVCON: Stata module to apply the deviation contrast transform to estimation results*, Statistical Software Components, Boston College Department of Economics. [Cit. on p. 71.]

2014   "Plotting regression coefficients and other estimates", *The Stata Journal*, 14, n. 4, pp. 708-737. [Cit. on p. 72.]

Jasieńska, G., Ziomkiewicz, A., Ellison, P.T., Lipson, S.F., and Thune, I.

2004   "Large breasts and narrow waists indicate high reproductive potential in women", *Proceedings of the Royal Society B: Biological Sciences*, 271, n. 1545, pp. 1213-1217. [Cit. on p. 45.]

Jasso, G.

2006   "Factorial survey methods for studying beliefs and judgments", *Sociological Methods & Research*, 34, pp. 334-423. [Cit. on p. 58.]

Johannesen-Schmidt, M.C. and Eagly, A.H.

2002   "Another look at sex differences in preferred mate characteristics: The effects of endorsing the traditional female gender role", *Psychology of Women Quarterly*, 26, n. 4, pp. 322-328. [Cit. on p. 14.]

Johnston, V.S. and Franklin, M.

1993   "Is beauty in the eye of the beholder?", *Ethology and Sociobiology*, 14, pp. 183-199. [Cit. on p. 44.]

Joinson, A.N., Woodley, A., and Reips, U.-D.

2007   "Personalization, authentication and self-disclosure in self-administered Internet surveys Computers in Human Behavior", *Computers in Human Behavior*, 23, pp. 275-285. [Cit. on p. 66.]

Jokela, M.

2009   "Physical attractiveness and reproductive success in humans: Evidence from the late 20 th century United States", *Evolution and Human Behavior*, 30, n. 5, pp. 342-350. [Cit. on p. 45.]

Judge, T.A. and Cable, D.M.

2004   "The effect of physical height on workplace success and income: Preliminary test of a theoretical model", *Journal of Applied Psychology*, 89, n. 3, pp. 428-441. [Cit. on p. 43.]

Kalick, S.M., Zebrowitz, L.A., Langlois, J.H., and Johnson, R.M.

1998   "Does human facial attractiveness honestly advertise health? Longitudinal Data on an Evolutionary Question", *Psychological Science*, 9, n. 1, pp. 8-13. [Cit. on p. 44.]

Kalmijn, M.

1991   "Status homogamy in the United States'", *American Journal of Sociology*, 97, n. 2, pp. 496-523. [Cit. on p. 5.]

1993   "Trends in Black/White intermarriage", *Social Forces*, 72, n. 1, p. 119.146. [Cit. on p. 23.]

Kalmijn, M.

1994 "Assortative mating by cultural and economic occupational status'", *American Journal of Sociology*, 100, n. 2, pp. 422-452. [Cit. on pp. 5, 22.]

1998 "Intermarriage and homogamy: Causes, patterns, trends", *Annual Review of Sociology*, 24, n. 1, pp. 395-421. [Cit. on pp. 1, 2, 4, 5, 19, 27, 53.]

2010 "Educational inequality, homogamy, and status exchange in black-white intermarriage: A comment on Rosenfeld", *American Journal of Sociology*, 115, n. 4, pp. 1252-1263. [Cit. on p. 23.]

Kalmijn, M. and Flap, H.

2001 "Assortative meeting and mating: Unintended consequences of organized settings for partner choices", *Social Forces*, 79, n. 4, pp. 1289-1312. [Cit. on p. 20.]

Kaplan, H.

1996 "A theory of fertility and parental investment in traditional and modern human societies", *Yearb. Phys. Anthropol.* 39, pp. 91-135. [Cit. on p. 46.]

Kasser, T. and Sharma, Y.S.

1999 "Reproductive freedom, educational equality, and females' preference for resource-acquisition characteristics in mates", *Psychological Science*, 10, pp. 374-377. [Cit. on p. 13.]

Kenrick, D.T. and Keefe, R.C.

1992 "Age preferences in mates reflect sex differences in human reproductive strategies", *Behavioral and Brain Sciences*, 15, n. 1, pp. 75-91. [Cit. on pp. 9, 12.]

Kenrick, D.T., Sundie, J.M., Nicastle, L.D., and Stone, G.O.

2001 "Can one ever be too wealthy or too chaste? Searching for nonlinearities in mate judgment", *Journal of Personality and Social Psychology*, 80, n. 3, pp. 462-471. [Cit. on pp. 11, 12, 51, 52.]

Klesment, M. and Bavel, J.V.

2017 "The reversal of the gender gap in education, motherhood, and women as main earners in Europe", *European Sociological Review*, 33, n. 3, pp. 465-481. [Cit. on p. 6.]

Knight, C.R. and Brinton, M.C.

2017   "One egalitarianism or several? Two decades of gender-role Attitude change in Europe", *American Journal of Sociology*, 122, n. 5, pp. 1485-1532. [Cit. on pp. 28, 103, 105.]

Koch, A., Fitzgerald, R., Stoop, I., Widdop, S., and Halbherr, V.

2012   *Field procedures in the European Social Survey round 6: Enhancing response rates*, tech. rep., Mannheim: European Social Survey, GESIS. [Cit. on p. 66.]

Krasnec, M.O., Cook, C.N., and Breed, M.D.

2012   "Mating systems in sexual animals", *Nature Education Knowledge*, 3. [Cit. on pp. 32, 46.]

Kurzban, R. and Weeden, J.

2005   "HurryDate: Mate preferences in action", *Evolution and Human Behavior*, 26, n. 3, pp. 227-244. [Cit. on pp. 8, 11, 12, 50, 51.]

Laland, K.N. and Brown, G.R.

2011   *Sense and Nonsense: Evolutionary Perspectives on Human Behaviour*, 2nd Editio, 4, Oxford: Oxford University Press, vol. 82, pp. 923-924. [Cit. on pp. 33, 34, 38-41, 44.]

Laland, K.N. and O'Brien, M.J.

2011   "Cultural niche construction: An introduction", *Biological Theory*, 6, n. 3, pp. 191-202. [Cit. on pp. 35, 40, 47.]

Laland, K., Matthews, B., and Feldman, M.W.

2016   "An introduction to niche construction theory", *Evolutionary Ecology*, 30, n. 2, pp. 191-202. [Cit. on p. 34.]

Langlois, J.H., Kalakanis, L., Rubenstein, A.J., Larson, A., Hallam, M., and Smoot, M.

2000   "Maxims or myths of beauty? A meta-analytic and theoretical review." *Psychological Bulletin*, 126, n. 3, pp. 390-423. [Cit. on p. 62.]

Lawson, D.W.

2011   "Life History Theory & Human Reproductive Behaviour", in *Evolutionary Psychology: A Critical Introduction*, ed. by V. Swami, Oxford: Wiley-Blackwell, pp. 1-40. [Cit. on p. 34.]

Lawson, D.W. and Mace, R.

2011 "Parental investment and the optimization of human family size", *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 366, n. 1563, pp. 333-343. [Cit. on p. 46.]

Lee, A.J. and Zietsch, B.P.

2011 "Experimental evidence that women's mate preferences are directly influenced by cues of pathogen prevalence and resource scarcity", *Biology Letters*, 7, n. 6, pp. 892-895. [Cit. on p. 12.]

Lee, A.J., Dubbs, S.L., Von Hippel, W., Brooks, R.C., and Zietsch, B.P.

2014 "A multivariate approach to human mate preferences", *Evolution and Human Behavior*, 35, n. 3, pp. 193-203. [Cit. on pp. 8, 9, 49-52, 60, 62.]

Lenton, A.P., Fasolo, B., and Todd, P.M.

2009 "The relationship between number of potential mates and mating skew in humans", *Animal Behaviour*, 77, n. 1, pp. 55-60. [Cit. on pp. 11, 50.]

Levanon, A. and Grusky, D.B.

2016 "The Persistence of Extreme Gender Segregation in the Twenty-first Century", *American Journal of Sociology*, 122, n. 2, pp. 573-619. [Cit. on pp. 6, 28.]

Li, N.P. and Kenrick, D.T.

2006 "Sex similarities and differences in preferences for short-term mates: What, whether, and why", *Journal of Personality and Social Psychology*, 90, n. 3, pp. 468-489. [Cit. on p. 12.]

Li, N.P., Bailey, J.M., Kenrick, D.T., Linsenmeier, J.A.W., Michael BAILEY, J., Kenrick, D.T., W Linsenmeier, J.A., Michael, J., and W, J.A.

2002 "The necessities and luxuries of mate preferences: Testing the tradeoffs", *Journal of Personality and Social Psychology*, 82, n. 6, pp. 947-955. [Cit. on pp. 8-10, 12, 50.]

Li, S.-C.

2003 "Biocultural orchestration of developmental plasticity across levels: The interplay of biology and culture in shaping the mind and behavior across the life span", *Psychological Bulletin*, 129, n. 2, pp. 171-194. [Cit. on p. 39.]

Lichter, D.T.

2019 "The study of assortative mating: Theory, data, and analysis", in *Analytical Family Demography*, ed. by R. Schoen, The Springer Series on Demographic Methods and Population Analysis 47, Springer International Publishing AG, chap. 13, pp. 303-332. [Cit. on pp. 5, 19.]

Lin, K.-H. and Lundquist, J.

2013 "Mate selection in cyberspace: The intersection of race, gender, and education", *American Journal of Sociology*, 119, n. 1, pp. 183-215. [Cit. on pp. 7, 49, 65.]

Lippa, R.A.

2007 "The preferred traits of mates in a cross-national study of heterosexual and homosexual men and women: An examination of biological and cultural influences", *Archives of Sexual Behavior*, 36, pp. 193-208. [Cit. on pp. 2, 12, 13, 65.]

Little, A.C., Jones, B.C., and Burriss, R.P.

2007 "Preferences for masculinity in male bodies change across the menstrual cycle", *Hormones and Behavior*, 51, pp. 633-639. [Cit. on p. 12.]

Little, A.C., Burriss, R.P., Jones, B.C., DeBruine, L.M., and Caldwell, C.A.

2008 "Social influence in human face preference: men and women are influenced more for long-term than short-term attractiveness decisions", *Evolution and Human Behavior*, 29, n. 2, pp. 140-146. [Cit. on p. 12.]

Lloyd, E.A. and Feldman, M.W.

2002 "Evolutionary psychology: A view from evolutionary biology", *Dennett*, 13, n. 2, pp. 150-156. [Cit. on p. 39.]

Lopreato, J. and Crippen, T.A.

1999 *Crisis in Sociology: The Need for Darwin*, New Brunswick, NJ: Transaction Publishers. [Cit. on pp. 3, 29.]

Louviere, J.J., Hensher, D.A., and Swait, J.D.

2000 *Stated Choice Methods Analysis and Applications*, Cambridge: University Press. [Cit. on p. 57.]

Lucchini, M.

2008 "Sociology and the behavioral sciences. Towards a unified theoretical framework of knowledge", *Sociologica*, 2. [Cit. on p. 33.]

Ludwick, R., Marion, R.; Wright, E., Zeller, R.A., Dowding, D.W., Lauder, W., Winchell, J., Wright, M.E., Zeller, R.A., Dowding, D.W., Lauder, W., and Winchell, J.

2004 "An improved methodology for advancing nursing research: Factorial surveys." *Advances in Nursing Science*, 27, n. 3, pp. 224-238. [Cit. on p. 58.]

Lundquist, J.H. and Lin, K.-H.

2015 "Is love (color) blind? The economy of race among gay and straight daters", *Social Forces*, 93, n. 4, pp. 1423-1449. [Cit. on pp. 7, 49.]

Luo, S., Zhang, G., Tafelski, T., Stallings, L., Manna, S., Cartun, M., Mitchell, R., Rowland, A., Wilson, A., Dukess, K., Herring, B., and Klein, D.

2009 "What leads to romantic attraction: Similarity, reciprocity, security, or beauty? Evidence from a speed-dating study", *Journal of Personality*, 77, n. 4, pp. 933-964. [Cit. on pp. 11, 50.]

Mare, R.D.

1991 "Five decades of educational assortative mating", *American Sociological Review*, 56, n. 1, pp. 15-32. [Cit. on p. 4.]

Marlowe, F.W.

2004 "Mate preferences among Hadza hunter-gatherers", *Human Nature*, 15, n. 4, pp. 365-376. [Cit. on p. 46.]

Marshall, D.A.

2018 "Sociology's contentious courtship with biology: A ballad", in *Oxford Handbook of Evolution, Biology, and Society*, ed. by R.L. Hopcroft, Oxford University Press. [Cit. on p. 38.]

McClintock, E.A.

2014 "Beauty and status: The illusion of exchange in partner selection?", *American Sociological Review*, 79, n. 4, pp. 575-604. [Cit. on p. 24.]

Mcclintock, E.A.

2011 "Handsome wants as handsome does: Physical attractiveness and gender differences in revealed sexual preferences", *Biodemography and Social Biology*, 57, n. 2, pp. 221-257. [Cit. on p. 8.]

Mcpherson, M., Lynn, S.-L., and Cook, J.M.

2001   "Birds of a feather: Homophily in social networks", *Source: Annual Review of Sociology*, 27, pp. 415-444. [Cit. on pp. 20, 22.]

Mesoudi, A., Whiten, A., and Laland, K.N.N.

2006   "Towards a unified science of cultural evolution." *Behavioral and Brain Sciences*, 29, n. 4, pp. 329-347. [Cit. on p. 33.]

Mogilski, J.K., Wade, T.J., and Welling, L.L.M.

2014   "Prioritization of potential mates' history of sexual fidelity during a conjoint ranking task", *Personality and Social Psychology Bulletin*, 40, n. 7, pp. 884-897. [Cit. on pp. 50-52.]

Moore, F.R. and Cassidy, C.

2007   "Female status predicts female mate preferences across nonindustrial societies", *Cross-Cultural Research*, 41, pp. 66-74. [Cit. on p. 13.]

Mysterud, I.

2004   "One name for the evolutionary baby? A preliminary guide for everyone confused by the chaos of names", *Social Science Information*, 43, n. 1, pp. 95-114. [Cit. on p. 33.]

Nakagawa, S. and Schielzeth, H.

2013   "A general and simple method for obtaining R^2 from generalized linear mixed-effects models", *Methods in Ecology and Evolution*, 4, pp. 133-142. [Cit. on p. 71.]

Nettle, D.

2002   "Women's height, reproductive success and the evolution of sexual dimorphism in modern humans", *Proceedings of the Royal Society B: Biological Sciences*, 269, n. 1503, pp. 1919-1923. [Cit. on p. 43.]

Nettle, D., Gibson, M.A., Lawson, D.W., and Sear, R.

2013   "Human behavioral ecology: Current research and future prospects", *Behavioral Ecology*, 24, n. 5, pp. 1031-1040. [Cit. on p. 34.]

Nettle, D. and Pollet, T.V.

2008   "Natural selection on male wealth in humans", *The American Naturalist*, 172, n. 5, pp. 658-666. [Cit. on p. 46.]

Newson, L., Postmes, T., Lea, S.E.G., and Webley, P.

2005 "Why are modern families small? Toward an evolutionary and cultural explanation for the demographic transition", *Personality and Social Psychology Review*, 9, n. 4, pp. 360-375. [Cit. on p. 35.]

Oppenheimer, V.K.

1988 "A theory of marriage timing", *American Journal of Sociology*, 94, n. 3, pp. 563-591. [Cit. on pp. 26, 27.]

1994 "Women's Rising Employment and the Future of the Family in Industrial Societies", *Source: Population and Development Review*, 20, n. 2, pp. 293-342. [Cit. on pp. 26, 46.]

1997 "Women's employment and the gain to marriage: The specialization and trading model", *Annual Review of Sociology*, 23, pp. 431-53. [Cit. on p. 26.]

Pawlowski, B.

2000 "The biological meaning of preferences on the human mate market", *Anthropological Review*, 63, pp. 39-72. [Cit. on pp. 2, 8, 43, 45.]

Perrett, D.I., Lee, K.J., and Penton-Voak, I.

1998 "Effects of sexual dimorphism on facial attractiveness", *Nature*, 394, n. August, pp. 15-18. [Cit. on p. 44.]

Pigliucci, M.

2013 "The demarcation problem", in *Philosophy of Pseudoscience: Reconsidering the Demarcation Problem*, ed. by M. Pigliucci, Chicago and London: The University of Chicago Press, pp. 9-28. [Cit. on p. 40.]

Pillsworth, E.G. and Haselton, M.G.

2006 "Women's Sexual Strategies: The Evolution of Long-Term Bonds and Extrapair Sex", *Annual Review of Sex Research*, 17, n. 1, pp. 59-100. [Cit. on p. 46.]

Pisati, M.

2008 "Flesh and blood and genes. Bringing (back) nature into the scientific analysis of social phenomena", *Sociologica*, 2. [Cit. on p. 38.]

Pisati, M. and Ridolfi, L.

2015 "Design of factorial survey experiments in stata", in *Presented at: 12th Italian Stata Users Group Meeting, Firenze, Italy.* [Cit. on p. 64.]

Potarca, G. and Mills, M.

2015   "Racial preferences in online dating across European countries", *European Sociological Review*, 31, n. 3, pp. 326-341. [Cit. on pp. 7, 49, 65.]

Puts, D.A.

2010   "Beauty and the beast: Mechanisms of sexual selection in humans", *Evolution and Human Behavior*, 31, pp. 157-175. [Cit. on pp. 42, 45.]

Rabe-Hesketh, S. and Skrondal, A.

2012   *Multilevel and Longitudinal Modeling Using Stata*, 3rd ed., College Station, TX: Stata Press. [Cit. on p. 70.]

Raley, S.B., Mattingly, M.J., and Bianchi, S.M.

2006   "How dual are dual-income couples?", *Journal of Marriage and Family*, 68, pp. 11-28. [Cit. on pp. 5, 6.]

Raudenbush, S.W. and Bryk, A.S.

1986   "A hierarchical model for studying school effects", *Sociology of Education*, 59, pp. 1-17. [Cit. on p. 71.]

2002   *Hierarchical Linear Models: Applications and Data Analysis Methods*, Thousand Oaks, CA: Sage. [Cit. on p. 71.]

Rhodes, G.

2006   "The Evolutionary Psychology of Facial Beauty", *Annual Review of Psychology*, 57, n. 1, pp. 199-226, arXiv: `arXiv:1011.1669v3`. [Cit. on pp. 44, 45.]

Rhodes, G., Simmons, L.W., and Peters, M.

2005   "Attractiveness and sexual behavior: Does attractiveness enhance mating success?", *Evolution and Human Behavior*, 26, pp. 186-201. [Cit. on p. 45.]

Rhodes, G., Yoshikawa, S., Clark, A., Lee, K., McKay, R., and Akamatsu, S.

2001   "Attractiveness of Facial Averageness and Symmetry in Non-Western Cultures: In Search of Biologically Based Standards of Beauty", *Perception*, 30, n. 5 (May 2001), pp. 611-625. [Cit. on p. 44.]

Richerson, P.J. and Boyd, R.

2008   *Not by Genes Alone: How Culture Transformed Human Evolution*, Chicago: University of Chicago Press. [Cit. on p. 35.]

Rosenfeld, M.J.

2005   "A critique of exchange theory in mate selection", *American Journal of Sociology*, 110, n. 5, pp. 1284-1325. [Cit. on pp. 23, 25.]

2008   "Racial, educational and religious endogamy in the United States: A comparative historical perspective", *Social Forces*, 87, n. 1, pp. 1-31. [Cit. on pp. 1, 4, 5.]

2010   "Still weak support for status-caste exchange: A reply to critics", *American Journal of Sociology*, 115, n. 4, pp. 1264-1276. [Cit. on p. 23.]

Rosenfeld, M.J. and Thomas, R.J.

2012   "Searching for a mate: The rise of the Internet as a social intermediary", *American Sociological Review*, 77, n. 4, pp. 523-547. [Cit. on p. 49.]

Rossi, P.H. and Anderson, A.B.

1982   "An Introduction", in *Measuring Social Judgments: The Factorial Survey Approach*. [Cit. on pp. 53, 57-59, 63, 64, 68.]

Rotkrich, A.

2018   "Evolutionary family sociology", in *Oxford Handbook of Evolution, Biology, and Society*, ed. by R.L. Hopcroft. [Cit. on p. 35.]

Sabatelli, R.M. and Shehan, C.L.

2009   "Exchange and resource theories", in *Sourcebook of Family Theories and Methods: A Contextual Approach*, ed. by P.G. Boss, W.J. Doherty, R. LaRossa, W.R. Schumm, and S.K. Steinmetz, Springer, pp. 385-411. [Cit. on p. 18.]

Sala, E., Terraneo, M., Lucchini, M., and Knies, G.

2013   "Exploring the impact of male and female facial attractiveness on occupational prestige", *Research in Social Stratification and Mobility*, 31, pp. 69-81. [Cit. on p. 45.]

Salska, I., Frederick, D.A., Pawlowski, B., Reilly, A.H., Laird, K.T., and Rudd, N.A.

2007   "Conditional mate preferences: Factors influencing preferences for height", *Personal Relationships*, 44, pp. 203-215. [Cit. on pp. 9, 14.]

Sanchez, L., Manning, W.D., and Smock, P.J.

1998   "Sex-specialized or collaborative mate selection? Union transitions among cohabitors", *Social Science Research*, 27, pp. 280-304. [Cit. on p. 25.]

Sarti, S.

2012   "A different approach to investigating social inequalities: The relationship between height and education in Italy", *Sociologica*, n. 2/2012. [Cit. on p. 43.]

Sassler, S. and Joyner, K.

2011   "Social exchange and the progression of sexual relationships in emerging adulthood", *Social Forces*, 90, n. 1, pp. 223-245. [Cit. on p. 23.]

Sauer, C., Auspurg, K., Hinz, T., and Liebig, S.

2011   "The application of factorial surveys in general population samples: The effects of respondent age and education on response times and response consistency", *Survey Research Methods*, 5, n. 3, pp. 89-102. [Cit. on pp. 58-60.]

Sauer, C., Auspurg, K., Hinz, T., Liebig, S., and Schupp, J.

2014   *Method effects in factorial surveys: An analysis of respondents' comments, interviewers' assessments, and response behavior*, tech. rep. [Cit. on p. 58.]

Sauer, C., Liebig, S., Auspurg, K., Hinz, T., Donaubauer, A., and Schupp, J.

2009   *A Factorial Survey on the Justice of Earnings within the SOEP-Pretest 2008*, tech. rep. [Cit. on p. 58.]

Scheib, J.E.

2001   "Context-specific mate choice criteria: Women's trade-offs in the contexts of long-term and extra-pair mateships", *Personal Relationships*, 8, n. 4, pp. 371-389. [Cit. on pp. 12, 51.]

Schmitt, D.P.

2003   "Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands", *Journal of Personality and Social Psychology2*, 85, n. 1, pp. 85-104. [Cit. on pp. 8, 36.]

Schmitt, D.P.

2008 "Big five traits related to short-term mating: From personality to promiscuity across 46 nations", *Evolutionary Psychology*, 6, n. 2, pp. 246-282. [Cit. on p. 12.]

Schmitz, A.

2016 *The Structure of Digital Partner Choice*, Springer, Cham. [Cit. on pp. 19, 41.]

Schoen, R. and Wooldredge, J.

1989 "Marriage choices in North Carolina and Virginia, 1969-71 and 1979-81", *Journal of Marriage and Family*, 51, n. 2, pp. 465-481. [Cit. on p. 23.]

Scholz, J.K. and Sicinski, K.

2015 "Facial attractiveness and lifetime earnings: Evidence from a cohort study", *The Review of Economics and Statistics*, 97, n. 1, pp. 14-28. [Cit. on p. 45.]

Schwartz, C.R.

2013 "Trends and variation in assortative mating: Causes and consequences", *Annual Review of Sociology*, 39, pp. 451-470. [Cit. on pp. 1, 2, 4, 5, 7, 19, 22, 27, 47, 53.]

Schwartz, C.R. and Mare, R.D.

2005 "Trends in educational assortative marriage from 1940 to 2003", *Demography*, 42, pp. 621-646. [Cit. on p. 6.]

Schwarz, S., Hunt, W., and Coppock, A.

2018 *What Have We Learned About Gender From Candidate Choice Experiments? A Meta-analysis of 30 Factorial Survey Experiments*, tech. rep., Prepared for presentation at the Annual Meeting of the Midwest Political Science Association, Chicago, April 5 - 8, 2018. [Cit. on p. 58.]

Scott, I.M.L., Pound, N., Stephen, I.D., Clark, A.P., and Penton-Voak, I.S.

2010 "Does masculinity matter? The contribution of masculine face shape to male attractiveness in humans", *PLoS ONE*, 5, n. 10, e13585. [Cit. on p. 44.]

Segerstråle, U.

2006 "Evolutionary Explanation: Between Science and Values", in *Missing the Revolution: Darwinism for Social Scientists*, ed. by J.H. Barkow, Oxford: Oxford University Press, pp. 121-147. [Cit. on p. 38.]

Shackelford, T.K., Schmitt, D.P., and Buss, D.M.

2005 "Universal dimensions of human mate preferences", *Personality and Individual Differences*, 39, pp. 447-458. [Cit. on p. 49.]

Shafer, K.

2013 "Unique matching patterns in remarriage: Educational assortative mating among divorced men and women", *Journal of Family Issues*, 34, n. 11, pp. 1500-1535. [Cit. on p. 2.]

Singh, D., Dixson, B.J., Jessop, T.S., Morgan, B., and Dixson, A.F.

2010 "Cross-cultural consensus for waist-hip ratio and women's attractiveness", *Evolution and Human Behavior*, 31, pp. 176-181. [Cit. on p. 45.]

Skopek, J., Schmitz, A., and Blossfeld, H.-P.

2011 "The gendered dynamics of age preferences - Empirical evidence from online dating", *Zeitschrift für Familienforschung*, 23, n. 3, pp. 267-290. [Cit. on p. 49.]

Skopek, J., Schulz, F., and Blossfeld, H.-P.

2011 "Who contacts whom? Educational homophily in online mate selection", *European Sociological Review*. [Cit. on pp. 2, 7-9, 19, 41, 49.]

Smith, E.A.

2000 "Three styles in the evolutionary analysis of human behaviour", *Adaptation and Human Behaviour: An Anthropological Perspective*, pp. 27-46. [Cit. on p. 33.]

Smith, E.A., Mulder, M.B., and Hill, K.

2001 "Controversies in the evolutionary social sciences: A guide for the perplexed", *Trends in Ecology & Evolution*, 16, n. 3, pp. 128-135. [Cit. on pp. 33, 39, 40.]

Smuts, B.

1995 "The evolutionary origins of patriarchy", *Human Nature*, 6, pp. 1-32. [Cit. on pp. 40, 41, 43.]

Snijders, T.A.B. and Bosker, R.J.

1994 "Modeled variance in two-level models", *Sociological Methods & Research*, 22, pp. 342-363. [Cit. on p. 71.]

Snyder, J.K., Lee, A., Kirkpatrik, B., and Barret, H.C.

2008 "The dominance dilemma: Do women really prefer dominant mates?", *Personal Relationships*, 15, pp. 425-444. [Cit. on p. 11.]

South, S.J.

1991 "Sociodemographic differentials in mate selection preferences", *Journal of Marriage and Family*, 53, n. 4, pp. 928-940. [Cit. on pp. 12, 13.]

Spencer, J.P., Blumberg, M.S., Mcmurray, B., Robinson, S.R., Samuelson, L.K., and Tomblin, J.B.

2009 "Short arms and talking eggs: Why we should no longer abide the nativist-empiricist debate", *Society for Research in Child Development*, 3, n. 2, pp. 79-87. [Cit. on p. 39.]

Sprecher, S.

1998 "Social exchange theories and sexuality", *The Journal of Sex Research*, 35, n. 1, pp. 32-43. [Cit. on p. 18.]

StataCorp

2017 *Stata Statistical Software: Release 15*, College Station, TX, StataCorp LLC. [Cit. on p. 70.]

Stauder, J.

2014 "Friendship networks and the social structure of opportunities for contact and interaction", *Social Science Research*, 48, pp. 234-250. [Cit. on p. 20.]

Steiner, P.M., Atzmüller, C., and Su, D.

2016 "Designing valid and reliable vignette experiments for survey research: A case study on the fair gender income gap", *Journal of Methods and Measurement in the Social Sciences*, 7, n. 2, pp. 52-94. [Cit. on p. 58.]

Stevens, G., Owens, D., and Schaefer, E.C.

1990 "Education and attractiveness in marriage choices", *Psychology Quarterly*, 53, n. 1, pp. 62-70. [Cit. on p. 24.]

Stewart-Williams, S. and Thomas, A.G.

2013   "The ape that thought it was a peacock: Does evolutionary psychology exaggerate human sex differences?", *Psychological Inquiry*, 24, pp. 137-168. [Cit. on pp. 43, 46.]

Stone, B.L.

2008   "The evolution of culture and sociology", *American Sociologist*, 39, n. 1, pp. 68-85. [Cit. on pp. 7, 12, 14.]

Stulp, G. and Barrett, L.

2016a   "Evolutionary perspectives on human height variation", *Biol. Rev*, 91, pp. 206-234. [Cit. on p. 43.]

2016b   "Wealth, fertility and adaptive behaviour in industrial populations", *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371, n. 1692, p. 20150153. [Cit. on p. 35.]

Stulp, G., Buunk, A.P., Kurzban, R., and Verhulst, S.

2013   "The height of choosiness: mutual mate choice for stature results in suboptimal pair formation for both sexes", *Animal Behaviour*, 86, pp. 37-46. [Cit. on pp. 9, 47.]

Stulp, G., Verhulst, S., Pollet, T.V., and Buunk, A.P.

2012   "The effect of female height on reproductive success is negative in Western populations, but more variable in Non-Western populations", *American Journal of Human Biology*, 24, pp. 486-494. [Cit. on p. 43.]

Sullivan, O., Gershuny, J., and Robinson, J.P.

2018   "Stalled or uneven gender revolution? A long-term processual framework for understanding why change is slow", *Journal of Family Theory and Review*, 10, n. 1, pp. 263-279. [Cit. on p. 6.]

Taylor, B.

2006   "Factorial surveys: Using vignettes to study professional judgement", *British Journal of Social Work*, 36, pp. 1187-1207. [Cit. on p. 58.]

Taylor, P.A. and Glenn, N.D.

1976   "The utility of education and attractiveness for females' status attainment through", *Source: American Sociological Review*, 41, n. 3, pp. 484-498. [Cit. on pp. 17, 24.]

Thiessen, D. and Gregg, B.

1980 "Human assortative mating and genetic equilibrium: An evolutionary perspective", *Ethology and Sociobiology*, 1, n. 2, pp. 111-140. [Cit. on p. 47.]

Thornhill, R. and Gangestad, S.W.

2006 "Facial sexual dimorphism, developmental stability, and susceptibility to disease in men and women", *Evolution and Human Behavior*, 27, n. 2 (Mar. 2006), pp. 131-144. [Cit. on p. 43.]

Todd, P.M. and Miller, G.F.

1999 "From Pride and Prejudice to Persuasion. Satisficing in Mate Search", in *Simple heuristics that make us smart*, New York: Oxford University Press, chap. 13, pp. 287-308. [Cit. on pp. 21, 47.]

Todd, P.M., Penke, L., Fasolo, B., and Lenton, A.P.

2007 "Different cognitive processes underlie human mate choices and mate preferences", *Proceedings of the National Academy of Sciences*, 104, n. 38, pp. 15011-15016. [Cit. on pp. 8, 11, 50, 51.]

Tolsma, J., Blaauw, J., and te Grotenhuis, M.

2012 "When do people report crime to the police? Results from a factorial survey design in the Netherlands, 2010", *Journal of Experimental Criminology*, 8, n. 2 (June 2012), pp. 117-134. [Cit. on p. 58.]

Tomaskovic-Devey, B. and Tomaskovic, D.

1988 "The social structural determinants of ethnic group behavior: Single ancestry rates among four white American ethnic groups", *American Sociological Review*, 53, n. 4, pp. 650-659. [Cit. on p. 20.]

Townsend, J.

1998 "Sexual attractiveness: Sex differences in assessment and criteria", *Evolution and Human Behavior*, 19, n. 3, pp. 171-191. [Cit. on p. 13.]

Travaglia, L.K., Overall, N.C., and Sibley, C.G.

2009 "Benevolent and Hostile Sexism and preferences for romantic partners", *Personality and Individual Differences*, 47, n. 6, pp. 599-604. [Cit. on p. 14.]

Trivers, R.L.

  1972   "Parental Investment and Sexual Selection", in *Sexual Selection and
          the Descent of Man*, ed. by B. Campbell, Chicago: Aldine, pp. 136-179.
          [Cit. on pp. 2, 31.]

Turner, J., Machalek, R., and Maryanski, A.

  2015   *Handbook on evolution and society: Toward an evolutionary social
          science*, pp. 1-654, arXiv: `arXiv:1011.1669v3`. [Cit. on pp. 3, 29.]

Udry, J.R.

  1977   "The importance of being beautiful: A Reexamination and racial
          comparison", *merican Journal of Sociology*, 83, n. 1, pp. 154-160. [Cit.
          on pp. 24, 25.]

Udry, J.R. and Eckland, B.K.

  1984   "Benefits of being attractive: Differentia payoffs for men and women",
          Psychological Reports, 54, pp. 47-56. [Cit. on p. 25.]

Van den Berghe, P.L.

  1990   "Why most sociologists don't (and won't) think evolutionarily", *Soci-
          ological Forum*, 5, n. 2, pp. 173-185. [Cit. on p. 38.]

Vincent-Lancrin, S.

  2008   "The reversal of gender inequalities in higher education: An on-going
          trend", in *Higher Education to 2030: Demography*, Paris: OECD,
          chap. X, pp. 265-289. [Cit. on p. 5.]

Vitali, A. and Arpino, B.

  2016   "Who brings home the bacon? The influence of context on partners'
          contributions to the household income Author", *Demographic Research*,
          35, n. July-December, pp. 1213-1244. [Cit. on p. 6.]

Wallander, L.

  2009   "25 years of factorial surveys in sociology: A review", *Social Science
          Research*, 38, n. 3, pp. 505-520. [Cit. on p. 58.]

Waller, W.

  1937   "The rating and dating complex", *Source American Sociological Review*,
          2, n. 5, pp. 727-734. [Cit. on pp. 18, 24.]

Walsh, A.

2014 *Biosociology: Bridging the Biology-Sociology Divide*, New Brunswick, NJ: Transaction Publishers. [Cit. on pp. 3, 29.]

Wang, G., Cao, M., Sauciuvenaite, J., Bissland, R., Hacker, M., Hambly, C., Vaanholt, L.M., Niu, C., Faries, M.D., and Speakman, J.R.

2018 "Different impacts of resources on opposite sex ratings of physical attractiveness by males and females", *Evolution and Human Behavior*, 39, n. 2, pp. 179-190. [Cit. on pp. 51, 52.]

Weeden, J., Abrams, M.J., Green, M.C., and Sabini, J.

2006 "Do high-status people really have fewer children? Education, income, and fertility in the contemporary U.S." *Human Nature*, 17, n. 4, pp. 377-392. [Cit. on p. 46.]

Weeden, J., Sabini, J., Weeden, J., and Sabini, · .J.

2007 "Subjective and objective measures of attractiveness and their relation to sexual behavior and sexual attitudes in University students", *Archives of Sexual Behavior*, 36, pp. 79-88. [Cit. on p. 45.]

Weinberg, J., Freese, J., and McElhattan, D.

2014 "Comparing data characteristics and results of an online factorial survey between a population-based and a crowdsource-recruited sample", *Sociological Science*, 1, pp. 292-310. [Cit. on p. 59.]

Westermarck, E.

1936 *The Future of Marriage in Western Civilisation*, London: Macmillan and co., Limited. [Cit. on p. 35.]

Whyte, S. and Torgler, B.

2017 "Things change with age: Educational assortment in online dating", *Personality and Individual Differences*, 109, pp. 5-11. [Cit. on pp. 2, 7, 9, 10.]

Wiederman, M.W. and Allgeier, E.R.

1992 "Gender differences in mate selection criteria: Sociobiological or socioeconomic explanation?", *Ethology and Sociobiology*, 13, pp. 115-124. [Cit. on pp. 13, 50.]

Wiederman, M.W. and Dubois, S.L.

    1998   "Evolution and sex differences in preferences for short-term mates results from a policy capturing study", *Evolution and Human Behavior*, 19, pp. 153-170. [Cit. on p. 51.]

Williams, R.

    2012   "Using the margins command to estimate and interpret adjusted predictions and marginal effects", *The Stata Journal*, 12, n. 2, pp. 308-331. [Cit. on p. 71.]

Zentner, M. and Mitura, K.

    2012   "Stepping out of the caveman' s shadow: Nations' gender gap predicts degree of sex differentiation in mate preferences", *Psychological Science*, 23, n. 10, pp. 1176-1185. [Cit. on pp. 2, 13.]