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God, sex, and money among the ultra-Orthodox in Israel: An integrated sociocultural and evolutionary perspective[☆]

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ABSTRACT

The origin of the tendency for men to value wealth more than women can be explained by both social role theory and evolutionary theory. We integrate these two perspectives to provide insight into a unique cultural context, the Jewish ultra-Orthodox community in Israel, where social roles are reversed, such that women are the primary breadwinners in the family. Studies 1a and 1b provide support for social role theory's claim that men and women will internalize attitudes toward wealth that are consistent with their gender role in society. These findings are then integrated with an evolutionary perspective suggesting that men strive to elevate their personal status as a means of attracting mates. In most modern societies this equates to the accumulation of wealth, but in the ultra-Orthodox community it is religious devotion and piety that determine the status of men. An examination of mating preferences in the ultra-Orthodox community confirms many predictions from an evolutionary perspective and departs only in that women do not show a preference for mates with good financial prospects, but rather, owing to the unique sociocultural definition of status, women display a preference for men of strong religious devotion (Study 2). This contrasts with the secular Jewish community where women show the typical preference for wealthy men (Study 3). These findings are consistent with the idea that men may have evolved preferences for achieving status given the mating advantages it confers with women, but how status is achieved may be culturally specific.

1. Introduction

Across cultures and societies, men consistently out-earn women in the labor market (International Labor Organization, 2016; Weichselbaumer & Winter-Ebmer, 2005). This phenomenon holds true even in modern societies where women are increasingly active in accumulating capital and property (Blau & Kahn, 2007; Catalyst, 2017; U.S. Department of Labor, 2017). Data from the US census reveals that in only 15% of married households with children 18 years or younger are mothers the primary breadwinner; this is despite a nearly fourfold increase in women as the primary breadwinner between 1960 and 2011 (Wang, Parker, & Taylor, 2013).

The association between gender and wealth may even occur automatically and without conscious control. Research using the implicit association test has shown that individuals more readily associate the concept “male” with attributes such as *rich* and *money*, and “female” with terms such as *poverty* and *penniless*, relative to the reverse pairing

(Williams, Paluck, & Spencer-Rodgers, 2010). Moreover, research suggests that men and women's own attitudes toward wealth are also divergent, with men reporting greater obsession with money, and a tendency to more strongly associate wealth with freedom, power, and security (Furnham, 1984; Furnham, von Stumm, & Fenton-O'Creedy, 2015; Mumford & Weeks, 2003; Sabri, Hayhoe, & Ai, 2006). Indeed, Furnham (1984) reported that men score more highly than women on a “power” factor of money attitudes. Lynn (1993) documented the robust nature of this effect, showing that men value wealth more than women across nearly twenty different countries.

In the current research we examine the utility of two theories that are well positioned to shed light on the phenomenon of sex differences in attitudes toward wealth: social role theory and evolutionary theory. Whereas social role theory asserts that these differences are the result of the internalization of societally reinforced gender roles, evolutionary theory suggests that they are due to men's striving for status to gain advantages in the mating market. Although often viewed as competing

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theories, here we suggest that the two can be profitably integrated to expand upon our understanding of sex differences in attitudes toward wealth, and men and women's mating preferences. To that end, we present a unique cultural context present among the ultra-Orthodox Jews in Israel, where women are the primary breadwinners of the family, and examine the application of each theoretical perspective.

1.1. Social role theory

Social role theory claims that stereotyped representations of groups of individuals are the result of consistent observations of members of that group occupying the stereotyped role (Conway, Pizzamiglio, & Mount, 1996; Eagly, 1987; Eagly & Kite, 1987; Eagly & Steffen, 1984). In other words, the content and strength of stereotypes are drawn from real-world observations. For example, women are frequently observed caring for their families and are therefore likely to be associated with the characteristics thought to be necessary for child care, such as nurturance and warmth. This association will then foster a *communal* stereotype, applied broadly to all women. Consistent with social role theory, Hoffman and Hurst (1990) showed that stereotypes about novel groups stem from the type of work each group typically performs. Similarly, Koenig and Eagly (2014) demonstrated that beliefs about work-related roles (e.g., lawyer, teacher, fast food worker) in which members of social groups (e.g., Black women, Hispanics, White men) are over-represented relative to their proportion in the general population, were strongly related to group stereotypes on both communion and agency/competence.

Social role theory has been applied extensively to the domain of gender stereotypes, notably via the biosocial model of sex differences (Eagly & Wood, 1999). This model acknowledges that biological sex differences act as a distal cause in the tendency for men and women to gravitate toward particular roles in society (e.g., women's ability to give birth and the associated hormones make it more likely that women will occupy the caregiver role), but argue that these roles are then reinforced and internalized by men and women through processes such as socialization, expectancy confirmation, and self-regulation (Wood & Eagly, 2002).

Given the fact that men tend to occupy social roles with higher status and earning capacity, and are more likely to be the primary breadwinners in a family, social role theory predicts that observations of men in this role will foster stereotypes about men's qualities and attributes that fit this role. Indeed, studies from the social-role perspective reveal that participants of both genders are likely to evaluate men as having agentic qualities (e.g., competitive and individualistic; Eagly & Steffen, 1984; Eagly & Steffen, 1986) and as having higher incomes than women (Biernat, Manis, & Nelson, 1991; Diekmann & Eagly, 2000; Eagly, 1987; Eagly & Steffen, 1984; Williams et al., 2010). These stereotypes are likely to become internalized by the individuals to whom they are applied. That is, individuals will come to endorse attitudes consistent with their stereotypical role in a culture (Hogg & Turner, 1987; Pickett, Bonner, & Coleman, 2002; Sinclair, Huntsinger, Skorinko, & Hardin, 2005). For example, it is expected that in societies with traditional gender roles, women will express more positive attitudes toward motherhood, and men will express more positive attitudes toward high-status careers and wealth.

A key prediction of social role theory is therefore that stereotypes should change as social roles change. Along these lines, Diekmann and Eagly (2000) demonstrated that stereotypes of women are more dynamic than stereotypes of men, owing to the larger transformation in women's social roles over time. Similarly, Eagly, Eastwick, and Johannesen-Schmidt (2009) asked participants to envision themselves as either a homemaker or a provider. Mate preferences changed according to the role envisioned; future homemakers regarded a potential mate's provider-qualities as more important, and homemaker-qualities as less important, than those who envisioned themselves as a provider. Moreover, the homemakers displayed a preference for an older spouse

than what was preferred by those in the provider role. These findings support the premise of social role theory, such that attitudes, specifically mate preferences, vary as a function of one's societal role.

Thus, drawing on social role theory, we can predict that in cultures where the social roles of the breadwinner are reversed, as they are in the ultra-Orthodox community, women will display more positive attitudes toward wealth than men, owing to the internationalization of a congruent social-role stereotype, and that they will not strongly value “provider” qualities of a potential mate, as do women in other cultures where men are the primary breadwinner.

1.2. Evolutionary theory

In contrast to social role theory, evolutionary theory suggests that modern men pursue wealth because, throughout human evolutionary history, men with higher status gained an advantage in mating contexts. This is owing to differences in parental investment and the process of sexual selection (Darwin, 1859, 1871; Trivers, 1972). Biological differences in men and women's reproductive physiology requires greater obligatory parental investment from women than men. Indeed, production of viable offspring requires of women, a nine-month gestational period, and among ancestral women, a long period of breast-feeding. In contrast, men's obligatory investment ends after ejaculation. As a result of this large difference, men and women's reproductive success is optimized via different reproductive strategies. As the lower investing sex, men can reap many reproductive benefits by maximizing mating access to healthy and fertile women. Given their large investment and lower reproductive ceiling, women benefit from selecting long-term mates who are capable and willing to invest resources into their shared offspring. Such resources would have been very influential in promoting the health and overall survival prospects of one's offspring.

From this line of reasoning, it is predicted that men will prioritize attractiveness in a mate, as many features of attractiveness are signals of health and fertility, whereas women will tend to prioritize men's ability to provide resources (Buss & Schmitt, 1993). As a means to this end, women will prefer men of high social status as mates. Social status is defined as one's ability to gain access to contested resources within a group (Henrich & Gil-White, 2001). Status can generate access to resources via multiple pathways (Von Rueden, Gurven, & Kaplan, 2011). One such pathway is through dominance, such that an individual with superior strength/abilities is able to coerce others into relinquishing their resources, either through the infliction of costs, or the denial of benefits. More common in humans is social status based on prestige, that is, the ability to confer benefits on others. Given that men are better able to monopolize a larger share of resources when they are of high status in a group, women tend to prefer traits in men that indicate high status. In many modern Western cultures, men's wealth is a key indicator of status, and as a function of this, women show a strong preference for men with good financial prospects (Buss, 1989; Buss & Schmitt, 1993). It is important to note though that evolutionary theory does not predict that women are predisposed to prefer men with “wealth” in particular, but rather indicators of status, as it is status that has reliably conveyed an ability to acquire resources over the course of human evolutionary history. How status is obtained may vary from culture to culture, but women's preference for high-status mates should be relatively invariant (Pillsworth, 2008).

In summary, the evolutionary perspective posits that men should tend to strongly prioritize a partner's attractiveness, as an indicator of health and fertility. In contrast, women should tend to prefer a partner of high status, particularly high prestige, as an indicator of ability to secure access to resources. These predictions are expected to apply broadly, though determinants of status should be culturally-specific and the difference between the sexes in their relative valuation of attributes is expected to vary with key ecological variables (e.g., Pillsworth, 2008). For example, women are expected to increase the priority they place on the attractiveness of their mates in ecologies where pathogen

prevalence is high, owing to the importance of selecting a healthy mate of high genetic quality. Similarly, men may display an increase in preference for the resource providing potential of their partner in ecologies where it is necessary for women to contribute a large share of nutritional assistance.

Applying this evolutionary perspective to the ultra-Orthodox community where the social role of breadwinner is reversed, we expect that women will display a preference for high status men in the community. This status is predicted to be based, not on wealth, but on men's religious devotion – owing to its value in the community. Additionally, women are expected to prefer men who are slightly older than they are, as this is a reliable indicator of status within a group (Buss, 1989; Buss & Schmitt, 1993). Men, on the other hand, are expected to show a preference for mates who are younger and physically attractive, owing to the reproductive benefits that such mates afford. Men may also display an increase in their valuation of the financial prospects of a potential partner, owing to their reliance on women as the breadwinner.

1.3. The ultra-Orthodox Community in Israel

The ultra-Orthodox community in Israel presents a unique cultural context to investigate the influence of these two theoretical perspectives on men and women's attitudes toward wealth, owing to the fact that women are the primary breadwinners in this society. Despite this intriguing social structure, there is very little empirical research on the ultra-Orthodox population. This is because the ultra-Orthodox community is very isolated, even from the secular Jewish community in Israel. Most members of the community live in separate neighborhoods, send their children to separate schools, and adhere to different norms governing their daily behavior (e.g., their dress code, diet, consumption of media, observance of religious proscriptions).

This ultra-Orthodox lifestyle emerged during the Jewish “Enlightenment” in the eighteenth century in order to maintain the traditional Jewish religion that was perceived as being dismantled by a move toward more secular Judaism (Friedman, 1986; Grilak, 2002; Katz, 1958). The central value of the community is the study of the Torah (the body of law and wisdom contained in the Jewish scriptures and their sacred commentaries). Ultra-Orthodox men in Israel typically devote themselves to the study of the Torah, and therefore rarely participate in the labor force (Berman & Klinov, 1997; Gottlieb, 2007). This tradition was promoted by community leaders beginning approximately 50 years ago, in response to the destruction of religious knowledge during the Holocaust and the perceived distancing of the Jewish community from the tenets of the Torah. This led to a concerted effort to restore this knowledge and the community's connection to it. Men were encouraged to devote their life to the study of the Torah, whereas women were asked to enable this task by taking on the role of the breadwinner in the family.

The result is a unique social structure in which a strictly traditional society encourages women, but not men, to work in the public sector (Dahan, 2004; El-Or, 1993; Friedman, 1991; Spiegel, 2011; Stadler, 2009). This over-arching goal is reflected in the education system as well. Boys learn a very limited core curriculum until the age of 12, when they transition to full-time study of the Torah. In contrast, women receive a more well-rounded education parallel to the secular curriculum (Spiegel, 2011). As a result, the majority of women in the ultra-Orthodox community work, whereas the majority of men learn the Torah and do not work (Malach, Choshen, & Cahaner, 2016), and this is accepted as normative (Stadler, 2002, 2009). This has produced a rare social structure in which men achieve status in the community, not through wealth accumulation, but through their religious devotion and achievements. Indeed, the men in the community with the highest status are those who are the most respected as religious scholars.

In the ultra-Orthodox community, marriage typically occurs between the ages of 18 and 21. The matchmaking process is usually

arranged by a professional matchmaker, that is, a *Shadchan*. The *Shadchan* is someone who is well-connected within the community and able to identify suitable matches. Traditionally, the matchmaker takes into account the family background, including factors such as the family's social status, their membership in a particular sector within the community, degree of conservatism, and socioeconomic status. The prospective pairing is offered to each family, and if both agree the match is suitable, then the couple meets. The prevailing norm is that the couple makes the final decision about their suitability, and in most cases, parents avoid influencing the decision.

Different sects of the ultra-Orthodox community vary in the particulars of the matchmaking process. For example, the Hasidim follow a stricter protocol such that the process begins at a younger age (18–19 years), only a few dates take place, and the parents and leaders in the community are more involved in the final decision on marriage. In other sects, such as non-Hasidim (referred to as “Lithuanians”), and the Sephardim or Mizrahim (originating from Asia or North Africa), the practices are more relaxed, starting at a slightly older age, with a longer courtship period, and a final decision dictated by the couple.

1.4. Predictions of the current research

We seek to integrate social role theory and evolutionary theory to offer insight into the unique cultural setting that the ultra-Orthodox community in Israel offers. In Study 1 we examine men and women's attitudes toward wealth in the ultra-Orthodox community in Israel (Study 1a), and among the secular community in Israel (Study 1b). These studies serve to provide evidence of the unique cultural context of the ultra-Orthodox community and test predictions based on social role theory. Given the reversal of social roles as breadwinner among the ultra-Orthodox, women will report more positive attitudes toward wealth than will men. In contrast, among the secular sample, it is expected that men will display more positive attitudes toward wealth, a finding that would replicate much of past research (Furnham, 1984; Furnham et al., 2015; Mumford & Weeks, 2003; Sabri et al., 2006).

Study 2 expands upon Studies 1a and 1b by examining whether, despite the unique cultural context, there is still evidence for evolved psychological mechanisms guiding the mate preferences of women and men. Indeed, a key aim of Study 2 is to demonstrate that, despite the breadwinner role-reversal, ultra-Orthodox women still show a preference for high-status men. The means of defining high status are culturally-specific, and in this particular culture, men's status is associated not with wealth, but rather their prestige as a religious scholar. Thus, we predict that women will show a preference not for wealthy men, but for men who are well-educated in their religious studies, and who display a deep religious devotion. Additionally, we expect that women will prefer men who are slightly older than they are, as this is a relatively invariant indicator of men's status within a group (Buss, 1989; Buss & Schmitt, 1993). Study 2 will also examine the psychological mechanisms guiding men's mate preferences in the ultra-Orthodox community. Consistent with evolutionary theorizing, men are expected to more strongly prioritize the attractiveness of their mate, including her youthfulness, as this is an indication of fertility – a fact that should be quite constant across various cultural contexts.

Study 3 builds on Study 2 by examining mate preference within the secular society of Israel, which has a normative social structure in which men are the primary breadwinners. We expect that secular women and men will demonstrate the well-established pattern of mate preferences reported in the literature (Buss, 1989; Buss & Schmitt, 1993). That is, we expect that women will show a strong preference for partners who are slightly older and who have good financial prospects, and that men will show a preference for attractive and youthful partners.

2. Study 1

In the first pair of studies, we sought to examine attitudes toward wealth in a society where gender roles are reversed, that is, where women are the primary breadwinners in the household (Study 1a) as well as in a normative, secular society (Study 1b).

2.1. Method

2.1.1. Participants and procedure

Participants in Study 1a were 120 Israeli Jews from the ultra-Orthodox community in Israel (53% female). The mean age of the sample was 26.74 ($SD = 7.36$). Considering the difficulty in accessing members of the ultra-Orthodox community, participants were recruited via a snowball sampling method originating with personal connections. The data were collected in the Haredi neighborhoods in Jerusalem and Bnei-Brak. Participants were compensated with a bar of chocolate. Participants in Study 1b were 79 secular Israeli Jews (63% female). The mean age of the sample was 36.84 years ($SD = 14.02$). Participants were approached in a shopping mall in a central town in Israel (Ramat Gan) and asked to complete a short paper-and-pencil survey. Participants were compensated with a coupon for a coffee. Across analyses, sample sizes vary due to missing data.

2.1.2. Measures

Studies 1a and 1b were conducted as part of a separate research project designed to examine differences in attitudes toward poverty between secular and religious communities in Israel. As a result, our assessment of attitudes toward wealth is conceptualized as the inverse of attitudes toward poverty. Embedded within a larger survey were two items that were averaged to assess attitudes toward poverty, and based on past research in this community (Malovicki-Yaffe, Solak, Halperin, & Saguy, 2018). Responses were given on a seven-point scale (1 = “strongly disagree” to 7 = “strongly agree”) to the questions: “Poverty can lead to deterioration and crime,” and “Poverty leads people to quarrels and disputes” (Study 1a: $r = 0.51$, $p < .001$; Study 1b: $r = 0.46$, $p < .001$). Participants were also asked to report demographic information, including a scale asking participants to report their personal economic condition ranging from “very bad” (1) to “very good” (5).

2.2. Results

2.2.1. Study 1a – ultra-Orthodox sample

To test our hypothesis we ran a one-way analysis of variance predicting attitudes toward poverty as a function of participant sex, with participant age and socioeconomic status entered as covariates. The analysis revealed a significant effect of participant sex ($F(1,104) = 5.02$, $p = .027$), which also held true when the covariates were removed from the analysis ($F(1,117) = 5.03$, $p = .027$). The pattern of the effect indicated that women expressed more negative attitudes toward poverty, or inversely, more positive attitudes toward wealth ($M = 4.83$, $SD = 1.43$) than did men ($M = 4.15$, $SD = 1.88$; $d = 0.40$).

2.2.2. Study 1b – secular sample

The one-way analysis of variance was repeated in the secular sample. The analysis revealed a significant effect of participant sex ($F(1,72) = 6.80$, $p = .011$), which held true when the covariates were removed from analysis ($F(1,77) = 7.92$, $p = .006$). The direction of the effect suggests that men hold more negative attitudes toward poverty ($M = 5.53$, $SD = 1.09$) than women ($M = 4.65$, $SD = 1.48$; $d = -0.63$), or stated differently, that men hold more positive attitudes toward wealth.

2.3. Discussion

These findings highlight the unique cultural context afforded by the ultra-Orthodox community, and also provide support for the predictions of social role theory. Ultra-Orthodox women may be internalizing the attributes associated with their role as the primary breadwinner, manifested as more positive attitudes toward wealth (i.e., less acceptance of poverty). In contrast, men who no longer serve in the role of breadwinner do not experience this internalization, and therefore display less positive attitudes toward wealth. Within the secular society where traditional gender roles are observed, men display more positive attitudes toward wealth relative to women. We note that using a measure of attitudes toward poverty is not an ideal representation of attitudes toward wealth. However, it is notable that the predicted difference was observed despite this, an effect which is particularly notable in the ultra-Orthodox community where poverty is closely connected to piety (e.g., Malovicki-Yaffe et al., 2018).

3. Study 2

Evolutionary psychological perspectives suggest that the tendency for men to display greater desire for wealth is part of men's evolved psychology to strive for high-status within a group in order to increase mating opportunities. Consistent with this reasoning, research has documented a strong and reliable sex-difference across cultures, whereby women show a strong preference for wealthy men, or men with good financial prospects (Buss, 1989; Buss & Schmitt, 1993). However, a preference for wealth, particularly monetary wealth, is not the postulated mechanism driving women's preferences, but rather, a preference for high-status men. In most modern cultures, wealth is a good proxy for status, but within the ultra-Orthodox community the pattern is quite different. Men forego formal education and the pursuit of a career in the public sector in order to focus their attention on the Torah, leaving women to act as the primary breadwinner.

Despite this unique sociocultural context, we should still expect to see evidence of evolved mechanisms influencing mate choice in men and women in the ultra-Orthodox community. Given that men do not advance their status through monetary wealth, but rather through their religious education, we expected that women would display mating preferences that prioritize men's scholarly attributes, religious devotion, and status within the community, rather than their financial prospects. Additionally, as a marker of status, we expected that women would indicate a preference for an older mate, as has been consistently observed in other cultures (Buss & Schmitt, 1993; Sprecher, Sullivan, & Hatfield, 1994). Conversely, it was expected that men would more strongly prioritize the attractiveness and youth of a potential mate as evidence of health and fertility (Buss, 1989; Buss & Schmitt, 1993; Feingold, 1990). Finally, we sought to replicate our findings from Study 1a, but with an improved measure of attitudes toward wealth.

3.1. Method

3.1.1. Participants and procedure

Participants were 129 individuals (41% women) from the ultra-Orthodox Jewish community in Israel, collected via snowball sampling. Sample sizes vary across analyses due to participants skipping questions. The mean age of the sample was 20.33 years ($SD = 2.16$). Participants of this age range were selected to ensure that they were not yet likely to be married, but of an age where selecting a partner is on their mind and they are eligible in the community to be offered matches. Participants were students in the sex-segregated, and very conservative Yeshivas in Jerusalem and Bnei-Brak. Participants were asked to complete a paper-and-pencil survey, and were compensated with a bar of kosher chocolate.

3.1.2. Measures

All constructs measured are reported below with the exception of a set of matchmaking vignettes created specifically for the ultra-orthodox community. These are presented in the online appendix.

3.1.2.1. Attitudes toward wealth. To improve upon the measurement of wealth attitudes from the first two studies, items were written to more directly assess attitudes toward *wealth* (rather than poverty). Items were framed in terms of the extent to which wealth does (or does not) contradict one's values. Responses were given on a seven-point scale (1 = "strongly disagree" to 7 = "strongly agree") to the questions: "I believe it is God's will that Haredi should be rich," and "Wealth leads to a cohesive, caring, and giving society" ($r = 0.38$). Given the conservative lifestyle of the participants, we articulated these items in a religious context in order to soften the concept of wealth. Admitting to a desire for wealth is considered inappropriate in the ultra-Orthodox community. Therefore the items were formulated carefully to adjust to community sensitivities.

3.1.2.2. Religious identity. Strength of religious identity was assessed using six items measured on a seven-point response scale ("not at all" to "very much so") including: "I feel strongly connected to other Haredi" and "Being Haredi is a central part of my identity" ($\alpha = 0.83$). This was included to rule out the possibility that sex differences in attitudes toward wealth can be explained by a stronger religious identity among men relative to women.

3.1.2.3. Mate preferences. To assess men and women's mate preferences, we used the Mate Preferences Questionnaire (Buss, 1989) with some modifications, additions, and deletions to suit the unique population of study (Supplementary Tables A2 and A3). The measure includes an evaluative component where participants are asked to rate a set of factors for their importance in selecting a mate (e.g., pleasing disposition, good financial prospects, good looks, educated scholar) on a scale of 0 (irrelevant or unimportant) to 3 (indispensable). They are also asked to report whom they would prefer to be older in a relationship (self or spouse) and the preferred age difference. This is followed by a task in which participants are asked to rank a set of characteristics in order from the most desired (1) to the least desired (12) including, for example: kind and understanding, good financial prospects, and good looks.

3.2. Results and discussion

3.2.1. Attitudes toward wealth

To conceptually replicate the results from Study 1, we again examined sex differences in attitudes toward wealth, but we also sought to examine whether such a sex difference could be fully accounted for by differences in religious identity. To do so, we conducted a moderated regression analysis predicting attitudes toward wealth via the main effects and interaction of participant sex and religious identity. Participant age and socioeconomic status were also included as covariates. Results of the analysis produced a main effect of participant sex ($b = -0.58$, $t(123) = -2.11$, $p = .037$) and a main effect of identity ($b = -0.31$, $t(123) = -2.60$, $p = .011$) indicating that women and less strongly identified individuals showed more positive attitudes toward wealth. There was no significant interaction, suggesting that men and women's attitudes toward wealth were not differentially shaped by their religious identity. A simple independent samples t -test without covariates revealed the same basic pattern ($t(127) = 2.22$, $p = .028$, $d = 0.39$) such that women expressed more positive attitudes toward wealth ($M = 3.06$, $SD = 1.45$) than did men ($M = 2.46$, $SD = 1.54$).

3.2.2. Mate evaluations

We then examined sex differences in the importance of various partner attributes (see Fig. 1). Independent samples t -tests were

conducted for the fourteen attributes. Of these, six produced a significant sex difference (see Table 1). Women displayed a stronger preference for mates who are a "highly intelligent, educated scholar" ($t(127) = 2.33$, $p = .022$, $d = 0.41$) and who have high "personal status" ($t(126) = 2.30$, $p = .023$, $d = 0.40$). This is consistent with the prediction that women would be attracted to traits that convey high status in the ultra-Orthodox community—predominantly their religious devotion. Additionally, women showed a preference for men who have high "emotional stability and maturity" ($t(124) = 2.66$, $p = .009$, $d = 0.48$), who desire a large family ($t(125) = 2.19$, $p = .030$, $d = 0.39$), and who share the same religious sector ($t(126) = 2.34$, $p = .021$, $d = 0.41$). In contrast, men displayed a stronger preference for mates who have "good looks" ($t(127) = -2.84$, $p = .005$, $d = -0.49$). This is consistent with the prediction that men will value attractiveness as an indicator of fertility, across cultures. Also of note is the fact that women displayed a stronger preference for *more* of the attributes than did men, thereby illustrating the tendency for women to be the choosier sex, a finding that is consistent with their large investment in offspring (Trivers, 1972).

There was no sex difference in preferences for a mate who has "good financial prospects" ($t(126) = -1.56$, $p = .120$, $d = -0.28$). Moreover, the pattern of the means implies that, if anything, men value this trait more in a partner than do women. In most other cultures women show a much stronger preference for this attribute than do men (Buss, 1989; Buss & Schmitt, 1993). Accordingly, that this preference is not present in the ultra-Orthodox community is reflective of the fact that wealth does not indicate status here.

We also examined men and women's age preferences for their partner. On average, women preferred to be younger than their partner by 2.18 years ($SD = 1.62$) whereas men preferred to be older by 1.24 years ($SD = 2.63$; $t(112) = -7.97$, $p < .001$, $d = -1.21$). Women also preferred to be married at a slightly younger age ($M = 20.93$, $SD = 1.36$) than did men ($M = 21.40$, $SD = 1.41$) but the effect was marginally significant ($t(124) = -1.86$, $p = .066$, $d = -0.33$). Additionally, 91% of men indicated that they would prefer that they be older than their spouse, and 98% of women indicated that they would prefer their spouse to be older, $\chi^2(1) = 88.30$, $p < .001$. This is consistent with data across cultures indicating that women prefer their mates to be slightly older, owing to the higher status of older men, and that men prefer their partner to be younger, owing to the greater fertility of younger women (Buss & Schmitt, 1993).

3.2.3. Mate ranking

When making decisions about a partner, individuals must often prioritize some features over others. To examine this, the rankings of preferred attributes for one's mate were examined. Unfortunately, many ultra-Orthodox participants did not complete this portion of the survey or completed it only partially and often without following instructions. Their comments to the researcher following the study indicated that they found the task quite difficult. Given the constraint of a high rate of missing data, we decided to first compare men and women on only their primary preferences, that is, those traits ranked as their number one most highly valued trait in a partner. Data was analyzed only for participants for whom the ranking task was completed perfectly with no missing values or duplicate assignments of rank. This reduced the sample size for the analysis to 60 participants (52% female; $M_{\text{age}} = 19.97$, $SD = 1.96$).

A frequency analysis demonstrated that the trait most commonly ranked as most important for women was a man's religious/spiritual personality, in particular 32% of women indicated this as their number one preferred trait (versus 17% of men). On the other hand, men's number one most desired trait was a partner who is "kind and understanding" (45% versus 29% for women). This primary preference for a kind and understanding partner has been documented in previous research for both men and women (e.g., Buss & Barnes, 1986) and likely reflects, at least in part, the desire for a partner who is a good caregiver.

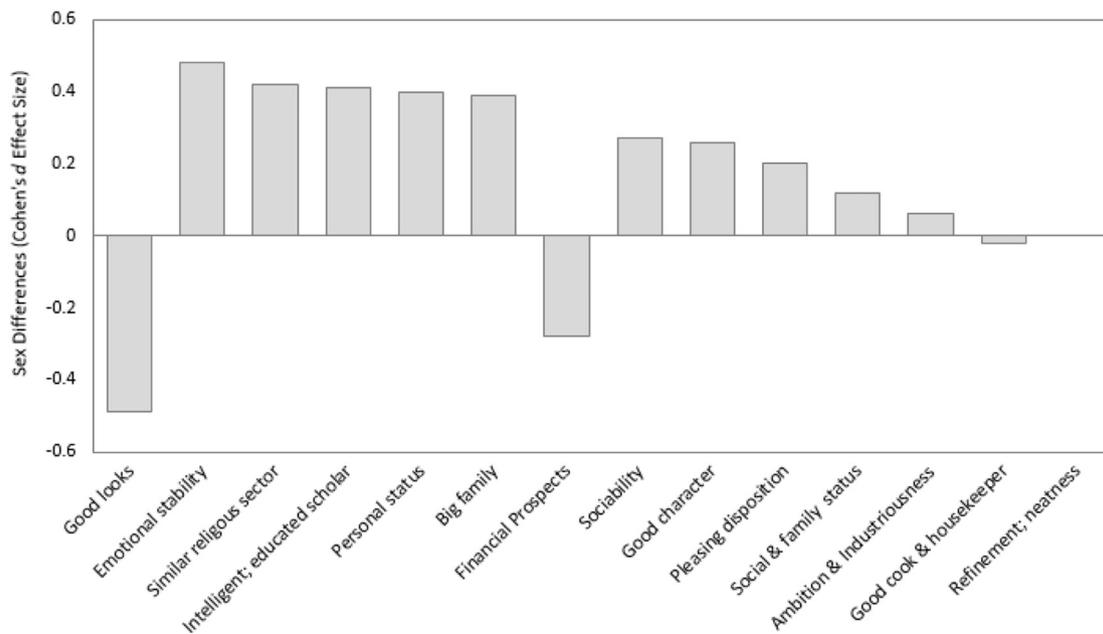


Fig. 1. Sex differences in evaluations of ideal partner's attributes for the ultra-Orthodox sample. Positive values indicate a stronger preference for the attribute among women; negative values indicate a stronger preference among men.

Table 1

Sex differences in evaluations of ideal partner's attributes for the ultra-Orthodox sample.

Attribute	Women		Men		Difference		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M_{diff}</i>	<i>SD_{pooled}</i>	<i>d</i>
Good looks	1.98	0.72	2.38	0.83	-0.40*	0.81	-0.49
Emotional stability & maturity	2.94	0.23	2.73	0.56	0.22*	0.46	0.48
Similar religious sector	2.44	0.75	2.09	0.88	0.35*	0.85	0.41
Highly intelligent, educated scholar	2.34	0.71	2.03	0.78	0.31*	0.76	0.41
High personal status	1.87	0.76	1.51	0.95	0.36*	0.89	0.40
Desire for a big, happy, family	2.48	0.61	2.17	0.88	0.31*	0.79	0.39
Good financial prospects	1.83	0.88	2.08	0.91	-0.25	0.90	-0.28
Sociability	2.21	0.61	2.01	0.81	0.20	0.73	0.27
Dependable character	2.89	0.32	2.77	0.54	0.12	0.46	0.26
Pleasing disposition	2.83	0.38	2.73	0.55	0.10	0.49	0.20
Favorable social and family status	1.38	0.86	1.25	1.07	0.12	0.98	0.12
Ambition & industriousness	2.30	0.70	2.26	0.65	0.04	0.67	0.06
Good cook and housekeeper	1.62	0.77	1.63	0.91	-0.02	0.85	-0.02
Refinement, neatness	2.55	0.67	2.55	0.6	0.001	0.63	0.001

* $p < .05$.

Indeed, in the ultra-Orthodox community, despite women acting as the primary breadwinner, they are still responsible for the majority of childcare.

We also analyzed the trait rankings using the Mann-Whitney U test, as has been done in previous research (Pillsworth, 2008). Results indicated that women reported a higher ranking than did men for a partner with a “religious/spiritual personality” ($z = -2.18, p = .029$), who has an “exciting/interesting personality” ($z = -2.47, p = .013$), who is “easy going” ($z = -2.15, p = .032$), and who is from a “good, healthy, family” ($z = -2.08, p = .037$). On the other hand, men more strongly preferred a partner who has “good looks” ($z = -4.97, p < .001$), who is a “good housekeeper” ($z = -2.79, p = .005$), and who has a “good earning capacity” ($z = -2.46, p = .014$). These findings are consistent with the prediction that women will place a high

value on the status of a prospective partner, defined as a function of their religious devotion. On the other hand, as evolutionary theory predicts, men more strongly prioritized the attractiveness of a potential partner. These findings also imply the possibility of a reversed preference for a mate's financial prospects, which contradicts a wide literature across other cultural contexts and likely reflects this unique setting where men are much more dependent on their partner's income than is typical in other societies. However, caution in interpreting this effect is warranted, given that it was not significantly replicated in the evaluative preferences data.

4. Study 3

Study 3 examined attitudes toward wealth, and mating preferences, in the normative sociocultural context of the secular society in Israel. Here, as is true in most modern, Westernized societies, men function as the primary breadwinner in the family. The use of this cultural context should rule out the possibility that the pattern of findings obtained in the ultra-Orthodox community is not due to the unique culture of the ultra-Orthodox community, but rather to something that applies broadly to Israelis and/or the Jewish population in Israel.

Given the predictions of social role theory, it was expected that in this normative context men would display more positive attitudes toward wealth than women, owing to the internalization of their social role as breadwinner. Next, given the close association between men's status and wealth in modern, secular societies, we expected that secular women would display mating preferences that prioritize men's financial earning potential. Similarly, as a marker of status, we expected that women would indicate a preference for an older mate (Buss & Schmitt, 1993; Sprecher et al., 1994). Finally, it was expected that men would more strongly prioritize the attractiveness and youth of a potential mate, owing to its reliable association with women's health and fertility (Buss, 1989; Buss & Schmitt, 1993; Feingold, 1990).

4.1. Method

4.1.1. Participants and procedure

Participants were 94 secular Israeli Jews (59% female, $M_{age} = 28.42, SD = 5.21$) recruited via social media posts and snowball

sampling originating on the secular campus of an Israeli college. Although this sample is on average, older than the ultra-Orthodox sample, it was equivalent in the sense that both samples were around the age at which they preferred to marry. Accordingly, the preferred average age of marriage for this sample was 27.86 years ($SD = 5.84$). Individuals who indicated that they identified with a traditional religious orientation were omitted from the sample.

4.1.2. Measures

4.1.2.1. Attitudes toward wealth. In the secular society in Israel it is not inappropriate to express a desire for wealth. As such, we sought to again improve upon the measurement of wealth attitudes. To do so, we used the Money Attitudes Scale (Furnham, Wilson, & Telford, 2012). This measure contains subscales that describe different functions of wealth. Of greatest relevance to the current research is the power and influence subscale (four items; $\alpha = 0.68$), as this relates to using wealth to obtain prestige. For example, “Money is important because it shows how successful and powerful you are.” Responses were rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.1.2.2. Mate preferences. To assess men and women's mate preferences, we used the original version of the Mate Preferences Questionnaire (Buss, 1989) without the alternations used in the ultra-Orthodox sample.

4.2. Results and discussion

4.2.1. Attitudes toward wealth

Replicating past research, an independent samples *t*-test revealed a marginal sex difference in men and women's tendency to value wealth as a source of power and influence ($t(92) = -1.98, p = .051, d = -0.41$) such that men valued wealth more strongly ($M = 2.64, SD = 0.92$) than did women ($M = 2.30, SD = 0.73$).

4.2.2. Mate evaluations

We then examined sex differences in the importance of various partner attributes (see Fig. 2). Independent samples *t*-tests were conducted for the eighteen attributes. Of these, eight produced a significant sex difference (see Table 2). Consistent with predictions about women's preference for high status men, women displayed a stronger preference than men for mates who have “good financial prospects” ($t(92) = 3.75,$

Table 2

Sex differences in evaluations of ideal partner's attributes for secular sample.

Attribute	Women		Men		Difference		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M_{diff}</i>	<i>SD_{pooled}</i>	<i>d</i>
Education & intelligence	2.85	0.41	2.33	0.77	0.52*	0.64	0.81
Dependable character	2.95	0.30	2.49	0.76	0.46*	0.58	0.79
Emotional stability & maturity	2.82	0.43	2.36	0.71	0.46*	0.60	0.77
Good financial prospects	1.98	0.65	1.44	0.75	0.55*	0.74	0.74
Ambition & industriousness	2.51	0.69	2.00	0.76	0.51*	0.76	0.67
Pleasing disposition	2.93	0.33	2.56	0.72	0.36*	0.55	0.65
Good looks	1.84	0.63	2.15	0.67	-0.32*	0.66	-0.48
Desire for home and children	0.96	0.86	0.56	0.85	0.40*	0.88	0.45
Good health	2.35	0.67	2.31	0.77	0.26	0.71	0.37
Similar political background	1.18	0.88	0.92	0.87	0.26	0.88	0.30
Sociability	2.55	0.60	2.36	0.74	0.19	0.67	0.28
Similar educational background	1.47	0.88	1.26	0.97	0.22	0.92	0.24
Good cook and housekeeper	0.98	0.65	1.10	0.75	-0.12	0.70	-0.17
Refinement, neatness	1.71	0.69	1.62	0.82	0.09	0.74	0.12
Favorable social status or rating	0.93	0.84	0.87	0.83	0.06	0.83	0.07
Mutual attraction - love	2.96	0.19	2.95	0.22	0.02	0.20	0.10
Similar religious background	1.51	0.92	1.59	1.07	-0.08	0.98	-0.08
Chastity	2.00	0.84	1.92	0.87	0.08	0.85	0.09

* $p < .05$.

$p < .001, d = 0.74$), who have “education and intelligence,” ($t(92) = 4.26, p < .001, d = 0.81$), and who have “ambition and industriousness” ($t(92) = 3.38, p = .001, d = 0.67$). Indeed, intelligence, education, and ambition are modern tools to produce wealth and status (Buss, 1989; Buss & Schmitt, 1993). Women also displayed a preference for men who have “emotional stability and maturity” ($t(92) = 3.90, p < .001, d = 0.77$), a “pleasing disposition” ($t(92) = 3.31, p = .001, d = 0.65$), a “dependable character” ($t(92) = 4.07, p < .001, d = 0.79$), and a “desire for home and children” ($t(92) = 2.23, p = .28, d = 0.45$). In contrast, the only trait that men displayed a stronger preference for in a partner was “good looks” ($t(92) = -2.34, p = .021,$

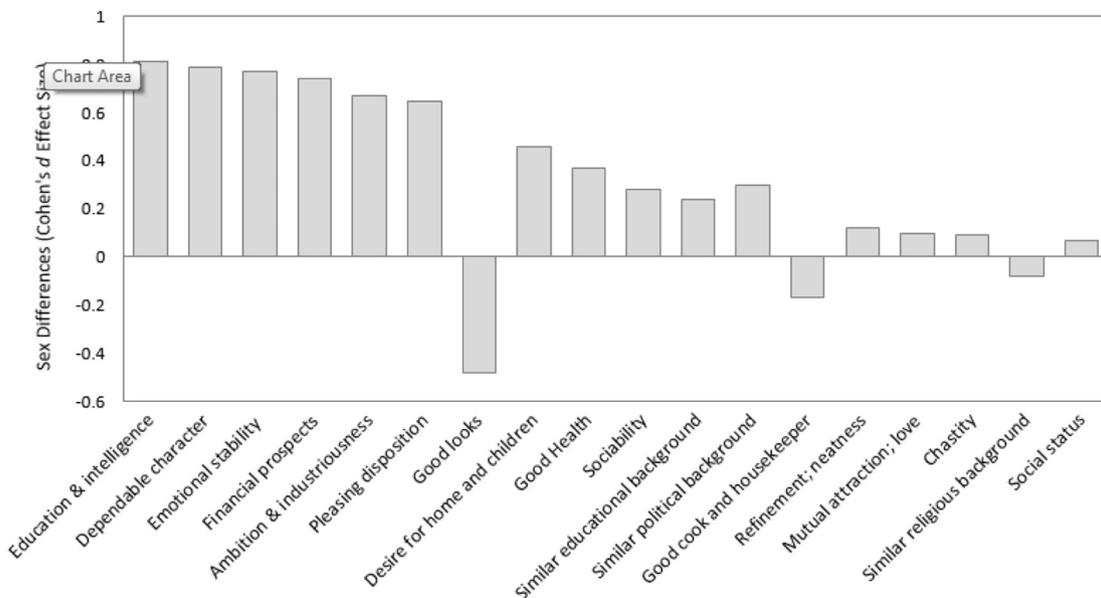


Fig. 2. Sex differences in evaluations of ideal partner's attributes for the secular sample. Positive values indicate a stronger preference for the attribute among women; negative values indicate a stronger preference among men.

$d = -0.48$), which is consistent with the prediction that men will value attractiveness as an indicator of health and fertility.

Next, we examined men and women's age preferences for their partner. There was a significant difference in preferred age difference between men and women ($t(66) = -9.34, p < .001, d = -1.52$) such that women preferred to be younger than their partner by 2.05 years ($SD = 1.81$) and men preferred to be older by 2.45 years ($SD = 2.16$). Men and women also differed in their preferred age of marriage ($t(83) = -2.41, p = .018, d = -0.52$) such that women preferred to be married at a younger age ($M = 26.65, SD = 7.04$) than did men ($M = 29.68, SD = 2.48$). Additionally, 97% of men indicated that they would prefer that they be older than their spouse, and 96% of women indicated that they would prefer their spouse to be older $\chi^2(1) = 82.13, p < .001$. The overall pattern of sex differences in age preferences is consistent with a large literature (e.g., Buss & Schmitt, 1993).

4.2.3. Mate ranking

As was done in the previous study participants had to rank and prioritize some attributes over others. All participants completed the task as proscribed. Results revealed that the attribute most frequently selected as most important for both men (28.2%) and women (32.7%) was a partner who is "kind and understanding." We then checked for sex differences in the rankings using the *Mann-Whitney U* test. Results revealed that women more strongly prioritized a mate who is "intelligent" ($z = -2.50, p = .012$), and who is a "college graduate" ($z = -3.11, p = .002$). In contrast, men prioritized more strongly than women, a mate who is "physically attractive" ($z = -2.36, p = .018$). Overall, these findings replicate the pattern of mate preferences observed in many other societies with traditional gender roles. This allows us to rule out the possibility that the pattern of findings observed in the ultra-Orthodox society is being driven by something that is common among all Jewish Israelis.

5. Discussion

Sociocultural and evolutionary perspectives are often perceived as mutually exclusive explanations for human social behavior. Here we draw on strengths of both theoretical perspectives to provide insight into the unique social structure of the ultra-Orthodox community in Israel. Based on social role theory we predicted that ultra-Orthodox women, given their role as breadwinners, would value money and wealth more than the men in their community. Consistent with this prediction, women reported more negative attitudes toward poverty (Study 1a) and more positive attitudes toward wealth (Study 2), relative to men. These findings contrast with those obtained in the secular Israeli sample, where it was men who showed more negative attitudes toward poverty (Study 1b) and more positive attitudes toward wealth (Study 3). These findings highlight the unique cultural context offered by the ultra-Orthodox community, and provide support for social role theory. Indeed, the findings suggest that women's role as breadwinner has become internalized, affecting their attitudes toward wealth and poverty.

Evolutionary research has long predicted that men should care more about obtaining wealth. Given this, at first glance, the above findings may appear to be at odds with evolutionary theory. However, it is important to note that monetary wealth is a modern concept. It is not possible that men could be equipped with a psychological mechanism for valuing monetary wealth. Rather, it is status that men seek, as a means to gain access to those resources that are valuable within the local ecology and cultural context. It is this status that women are attracted to, owing to its reliable association with men's ability to help provision offspring with highly valued resources. In most cultures, wealth and status are tightly linked for men, leading to a strong and reliable preference among women for men with good financial prospects. However, in the ultra-Orthodox community, wealth and status are not linked. Rather, men's prestige in the community is based on

their religious scholarship and devotion. As a consequence, we predicted that women would show a preference for men, not with good financial prospects, but for men who were deeply religious and who had high status within the community.

Consistent with our predictions, we found that women in the ultra-Orthodox community placed very little value on the financial prospects of their mate, and instead valued more strongly the personal status and religious devotion of their partner, as well as a partner who is older, likely owing to the elevated status of older men. Moreover, we show that men's preferences in this community follow the typical pattern that has been observed in many other cultures, that is, a strong preference for young and attractive mates. These qualities are clear signals of a woman's health and fertility, and are therefore likely to be valued by men quite consistently across cultures.

Overall our findings are highly consistent with the predictions of evolutionary theory. Both the secular and religious sample provide evidence for the predicted sex differences in preferences for age, status, and attractiveness. Moreover, the data indicate that women have a stronger preference for *more* attributes overall, than do men (see Figs. 1 and 2). This illustrates the tendency for women to be choosier in their selection of a mate, owing to their large parental investment and the resulting reproductive strategy that prioritizes the selection of high-quality mates. The only key difference between the two samples is in preferences for a partner's earning potential. In the secular sample, relative to men, women show a stronger preference for a mate with good financial prospects. Yet among the ultra-Orthodox, no such preference for wealth among women exists. Indeed, there is at least some preliminary evidence for a sex reversal in preferences for a mate with good financial prospects. In the mate evaluations data the effect was in the direction of men caring more about financial prospects than women, but not significant. In the mate rankings data, the financial prospects of a partner was ranked as more important among men relative to women. This shifting of preferences between the sexes likely reflects the necessity for men to rely on women as the primary breadwinner, and is consistent with other research arguing that, in ecologies where women's labor is required to provide sustenance for the family, the sex difference in valuing a partner's resource earning potential should shift as well (e.g., Pillsworth, 2008). Despite this potential reversal, the findings are still consistent with an evolutionary perspective, as they simply reflect a sociocultural shift in the definition of men's status.

These findings underscore the culturally specific nature of the meaning of status, and associated mate preferences. As such, these findings provide a useful example of how evolved mechanisms, such as a preference for high-status men, take cultural information as input, to shape an adaptive response in a given environment. Yet men's predominant preference for women who are physically attractive and younger in age was found to be less culturally variable – as would be expected given that across cultures these attributes are reliable indicators of health and fertility. Thus, our findings provide evidence for psychological mechanisms capable of producing constancy in behavior as well as sociocultural flexibility.

These data further point to the many shapes of patriarchy. The ultra-Orthodox community in Israel is extremely hierarchical, in the sense that only men are allowed to be in a leading position within the community and only men are the legitimate political representatives of the community. Men are also those who decide whether a marriage can be ended, and are the sole decision makers within ultra-Orthodox communities. Yet, in this community, unlike many other secular and Western cultures, the status and power that men harbor is not rooted in money or wealth, but rather in their devotion to spiritual virtues which is achieved only by studying the Torah. Only the men are allowed to achieve this status as women are forbidden from such scholarship (Labovitz, 2007; Pantal & Zolty, 1997). In this way, the traditional power disparity between men and women is maintained – but it takes on a different shape than what is typically observed. Moreover,

women's earning potential and virtue does not pose a threat to this hierarchy, because their access to high-status roles is blocked. It can even be seen as an extra burden that is placed on the women in the community, and a means of continuing their oppression. This is in sharp contrast to the progression of women in secular communities, where financial independence and wealth often leads to elevated status and greater gender parity.

Our research provides a unique opportunity to examine the explanatory power of two prominent psychological theories in a naturally occurring context where a gender role that is usually quite rigid, is explicitly reversed. At the same time, a limitation of our research is rooted in the difficulty of collecting data in this population. The ultra-Orthodox are a very isolated population and are not accustomed to participating in research, making it difficult to collect a large sample. Moreover, items that are prying into one's personal feelings may be viewed with suspicion and not likely to be tolerated. Indeed, many individuals in Study 2 did not complete the last mate preferences ranking assessment. Our consideration of these issues in advance of the study placed a tight constraint on the items we chose to include, and the nature of the questions asked. For example, it would have been inappropriate to examine men's preferences for various waist-to-hip ratios as an indicator of their preference for women with high fertility prospects. It was also necessary to change the wording of a number of items in the mate preferences inventory administered. This is problematic as it makes it difficult for us to compare our results to those from other cultures. However, many items simply do not make sense in this cultural context and had to be edited or removed. For example, asking about preferences for a partner with a similar political background is irrelevant in this population because the religious leaders exert a very strong influence on the political attitudes and voting behavior of the community members.

A related concern is the extent to which one can trust self-reports among the ultra-Orthodox community when it comes to mate preference. Indeed, Pillsworth (2008) reported that among the modern hunter-horticulturalist Shuar population in Ecuador, patterns of sex differences in mate preferences contradicted those reported broadly in the literature when the participants were asked to report on their own preferences. However, when asked to report on the qualities and desirability of others in the group, a more typical pattern of sex differences emerged. Among the ultra-Orthodox, it is possible that social desirability affected participants' responses, such that participants may have felt compelled to only provide answers that aligned with their religious values. Though this may explain women's valuing of men's religious devotion, it certainly cannot explain men's preference for an attractive partner. Given this, and the consistency with which the findings support established theoretical frameworks, we think the findings provide valid insight into this unique community of men and women.

6. Conclusion

Applying an evolutionary perspective to understanding human psychology can have many advantages and should be employed in concert with a consideration of the sociocultural context. Evolved psychological systems, such as those for mate preferences, are likely equipped with flexibility to respond to variable ecological and cultural conditions. Far from being mutually exclusive explanations, evolved mechanisms rely on input from the environment. Here we show one potential instantiation of this coordination. Women are likely equipped with psychological mechanisms that function to increase their reproductive success by exhibiting a preference for mates with high status, but the determination of status may vary as a function of the cultural context. In other words, women's preference for status has the potential to be culturally invariant, but women's preference for wealthy men is certainly not universal.

Data availability

The data associated with this research are available at: <https://osf.io/56jhz/>.

Appendix A. Supplementary information

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.evolhumbehav.2018.06.007>.

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