You're not my type: Do conservatives have a bias for seeing long-term mates?

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ABSTRACT

When choosing a mate, humans favour genetic traits (attractiveness, high sex drive) for short-term relationships and parental traits (warmth, high status) for long-term relationships. These preferences serve to maximise fitness of future offspring. But this model neglects the role of social norms in shaping evolved mating strategies. For example, in conservative cultures, individuals are likely to face costs such as punishment for short-term mating. Here we show that conservatives over-perceive some mates' suitability as long-term partners. Study 1 found that conservatives were less likely to use a short-term strategy that was distinctive from their long-term strategy. Study 2 showed that conservatives over-perceived hypothetical mates as long-term investing partners, despite their lack of commitment-compatible traits. Conservatism was measured at the regional- (India, USA, UK) and individual-level. Our results demonstrate how social norms may bias behaviour. We anticipate our findings to be a starting point for more sophisticated models, drawing on developments from evolutionary and social psychology.

1. Introduction

What traits do humans seek in a sexual partner? Should we expect a similar answer from a British college student and a middle-aged individual from Sudan? For decades, evolutionary and social psychologists have been interested in the traits that men and women desire in a sexual or romantic partner. Because human evolution has been shaped as much by social interactions as immunological diseases, a cultural view of psychology should play a central role in an evolutionary account of mating behaviour. Here we investigate the role of cultural norms in shaping evolved mating strategies. Specifically, we ask: (a) whether individuals from conservative backgrounds moderate their preferences by avoiding short-term mating even when, potentially, the benefits to offspring outweigh the costs, and (b) what mechanisms support this bias.

1.1. Evolved mate preferences

According to evolutionary psychologists, successive generations of early humans faced recurrent problems when choosing a suitable partner. Specifically, ancestral men and women would trade-off between mates offering genetic and parental quality (Pillsworth & Haselton, 2006; Gangestad & Simpson, 2000). As such, humans have

developed two distinctive mating strategies. For short-term relationships, individuals favour genetic traits that signal fertility, such as physical attractiveness and high sex drive (Li & Kenrick, 2006; Pillsworth & Haselton, 2006; Regan, Levin, Sprecher, Christopher, & Gate, 2000). For long-term relationships, however, individuals prioritise material traits, such as emotional warmth, wealth, and high social status (Gangestad & Simpson, 2000; Li, Bailey, Kenrick, & Linsenmeier, 2002; Regan et al., 2000).

The trade-off between genetic and parental quality is shaped further by ecological factors, such as historical levels of disease and resource scarcity, which influence fitness outcomes for offspring. For example, when rates of infectious disease are high, it would be prudent to favour mates with symmetrical faces, as symmetry is highly correlated with immunological functioning (Trivers, Manning, Thornhill, Singh, & McGuire, 1999; Thornhill, 1997). Additionally, when women's economic independence is low, they should favour men with wealth and high status (Stanik & Ellsworth, 2010; Lu, Zhu, & Chang, 2015). Cross-cultural research has also shown that people from countries with a low average birth rate, high infant mortality, higher parasite stress, or shorter life expectancy are less likely to engage in uncommitted sexual behaviour (Schmitt, 2002; Schaller & Murray, 2008; Thornhill, Fincher, Murray, & Schaller, 2010; Muggleton & Fincher, 2017).

Although there has been substantial focus on how environmental

factors shape mate preference, previous research has typically focussed on an individual's motivation to maximise the fitness of offspring. Yet most individuals will take into account factors that are indirectly related to their own fitness, such as the attitudes of their parents, society, and other potential mates. Furthermore, sex with multiple or unfamiliar partners can result in the transmission of many pathogens, including sexually transmitted infections, making uncommitted sex particularly risky when disease prevalence is high. As such, there could be opportunities where individuals should avoid uncommitted sex with mates with a high good genes value because the potential benefits to offspring may be outweighed by social costs, such as punishment for promiscuous behaviour, which can reduce an individual's residual reproductive value.

1.2. Social benefits of an evolved, long-term mate bias

Given that social cues influence mate choice, how are social norms surrounding sexuality maintained? One possibility is that individuals from conservative groups conform because they fear punishment. Yet harsh punishment is an inefficient mechanism for maintaining norms because it increases the risk of rebellion and a social backlash (Baumeister & Twenge, 2002; Brehm, 1966; LaFree, Dugan, & Korte, 2009). This, by definition, would undermine social cohesion. Alternatively, a more adaptive approach would be for individuals to internalise the norms of the group, by means of a bias. It could be, for example, a cognitive, learning, or cultural bias, but we are agnostic about the form this bias should take.

At first glance, biases can be viewed as violations of rational choice, and thus an evolutionary *mal*adaptation. Economic utility theory, philosophical reasoning, and conventional wisdom dictate that humans who are rational in their decision-making should outperform those who demonstrate bias. However, in some social situations biases can result in improved decision-making. Just as a smoke detector is attuned to prioritise safety (i.e., minimise false-negatives, even if this maximises the number of false-positives) over accuracy (minimise error rate overall), evolution has selected for psychological responses that maximise human survival (Nesse, 2005; Schaller & Park, 2011). In this view, biases, instead of design *flaws*, are design *features* (Haselton, Nettle, & Murray, 2015).

Similar logic could apply to individuals' perception of long-term mates. Consider this: social groups differ in the extent to which they are conservative. Conservative social norms dictate that individuals should be chaste; violation of these norms can result in malicious gossip, reputation damage, or honour killings (Ghanim, 2015; Hartung, 2012; Mayeda & Vijaykumar, 2016; Flood, 2013). A potentially adaptive bias could be an internalisation of social norms surrounding chastity, which results in an over-perception of a mate's suitability as potential long-term partners. In conservative groups, for example, the cost of a false positive (e.g., over-perceiving the risks of promiscuity) could lead to a missed opportunity to mate with a high quality mate. However, the cost of a false negative (e.g., failing to detect the risks of promiscuity) could result in social ostracism. Thus, in conservative contexts, individuals may demonstrate a bias that promotes social conformity to long-term mating. However, in liberal groups, where the costs of short-term mating are lower, individuals can benefit from engaging in distinctive mating strategies, by favouring short-term mating with good genes mates, but long-term mating with good parent or good provider mates.

We propose a theoretical model where personal and societal levels of conservatism predict the likelihood of a long-term mate bias. In all societies, humans can benefit from engaging in short-term mating. Benefits include increased offspring fitness, opportunities for mate poaching, mate value feedback, and immediate access to resources (Greiling & Buss, 2000; Meston & Buss, 2009; Smuts, 1992). However, the costs of engaging in short-term mating are moderated by social norms in a given ecology. If the social group is tolerant of short-term mating, the potential payoff of mating with good genes mates is relatively high. However, if the social group is conservative, the potential payoff of short-term mating is diminished.

Observational data support the claim that conservatism promotes a long-term mating bias. Individuals from conservative regions enter into marriage at a younger age (Schmitt, 2005) and are less likely to terminate these long-term bonds (Vandello & Cohen, 1999). Societal conservatism negatively predicts willingness to engage in short-term mating (Schmitt, 2005; Muggleton & Fincher, 2017; Thornhill, Fincher, & Aran, 2009), which could lead to costly punishment. The present report, however, seeks to test empirically whether individuals from conservative groups over-perceive prototypically short-term mates as potential long-term mates.

To test this proposition, we selected two relatively liberal regions (UK and USA) and one conservative region (India). The three regions also differ in mean number of sexual partners (UK: 9.8; USA: 10.7; India: 3.0) and one-night stands (UK: 52%; USA: 50%; India: 13%). Indians are also more likely to encourage young people to abstain from intercourse until they are married (49%, vs. UK: 6%; USA: 14%) (Durex Sexuality Study, 2005). As such, we might expect that Indian mating strategies are influenced by more conservative social norms and a higher likelihood of punishment. We also measured conservatism at the individual level to account for within-region variation amongst individuals.

1.3. The present research

We propose that conservatives have a bias for seeing long-term mates. Although prior research has demonstrated that conservatives possess distinctive short- and long-term mate preferences, displaying a short-term strategy may prove costly in conservative groups. As such, an adaptive response could be a bias that promotes long-term mate preferences, even under ecological conditions where - in some societies - a short-term mating strategy is adaptive. From this, four predictions emerge.

In Study 1, we predict that liberals will demonstrate stronger, more distinctive preferences for short- and long-term mates, relative to conservatives (Prediction 1). Central to this proposition is the prediction that conservatives avoid a distinctive short-term strategy as a mechanism to maintain traditional social norms. In conservative cultures, short-term mating could threaten traditional values, which poses a greater societal risk to conservative than liberal cultures (Roos et al., 2015). To test this assumption directly, we investigated whether an individual's motivation to conserve traditional values promotes convergent short- and long-term strategies. We predicted that adherence to traditional norms should negatively predict the distinctiveness between short- and long-term preferences (Prediction 2).

The proposed theory assumes that similar short- and long-term mate preferences are indicative of a *long-term mating bias* among individuals from conservative groups. In Study 2, we investigated whether conservatism-liberalism predicts the extent to which individuals over-perceive a mate's suitability as a potential long-term partner. Compared with liberals, conservatives should be less willing to engage in short-term mating with the archetypal one-night stand. That is, when selecting their ideal relationship with a 'sexy cad' (Durante, Griskevicius, Simpson, Cantú, & Li, 2012), conservatives should favour longer commitments than liberals (Prediction 3). However, ratings of the archetypal spouse should be unaffected by conservatism; that is, all participants should perceive this mate as an ideal spouse (Prediction 4).

The purpose of our report was to investigate whether conservatives are less prone to demonstrate distinctive short- and long-term sexual strategies, relative to liberals. In Study 1, we examined whether participants from the USA and UK (liberal regions) demonstrated more distinctive short- and long-term preferences than Indian participants (conservative region). We also investigated whether this was associated with a drive to maintain traditional values. Study 2 directly investigated whether conservatives over-perceived a mate's suitability as

potential long-term partner.

2. Study 1

2.1. Introduction

Study 1 investigated whether conservatives were less likely to adopt a distinctive short-term mating strategy. We also investigated the potential causes for regional differences by testing whether short-term mating strategies are predicted by an individual's motivation to preserve traditional norms. Participants constructed their ideal short- and long-term mates by spending 30 Mate Dollars on 12 traits.

2.2. Method

2.2.1. Participants

To maximise statistical power, we conducted a power analysis based on Muggleton and Fincher (2017). Our analysis indicated that, to obtain the recommended statistical power $1 - \beta = .80$ at $\alpha = .05$ (Cohen, 1988), our study would require $N \geq 70$ per condition. Post hoc tests revealed that our observed power was $\geq .81$ for all key tests (**pwr**; Champely, 2017).

We recruited 527 participants from India, the UK, and US (women = 254; men = 273) in a Prolific Academic (PA) study. PA is an online crowdsourcing tool that produces data of a quality comparable with Amazon Mechanical Turk (Peer, Brandimarte, Samat, & Acquisti, 2017). All participants were aged 18–73 ($M = 33.31$; $SD = 10.26$), heterosexual, and reported that they were fluent in English. Participants were financially reimbursed for their time.

2.2.2. Design

In a mixed-factorial design, nationality (USA, UK, India), sex (male, female), and tradition scores were the between-subject factors. Trait (good genes, good parent, good provider) and context (short-term, long-term) were the within-subject factors. The dependent variable was the proportion of Mate Dollars spent on each trait.

2.2.3. Psychological instruments
2.2.3.1. Mate Preference Inventory

Development. The instrument was based on the Women's Mate Preference Questionnaire (WMPQ), a 12-item measurement that was translated from Chinese to English (Lu et al., 2015). However, to account for potential mistranslations (Muggleton & Fincher, 2017), we chose to validate the questionnaire for an English-speaking sample by developing the Mate Preference Inventory (MPI). Participants rated a list of 30 mate traits, based on the long version of the WMPQ, which was translated by Lu et al. (2015) from Chinese to English.[1]

For this development of the MPI, 151 heterosexual women from the USA were recruited in a PA study. All participants were aged 18–44 years ($M = 30.46$; $SD = 6.94$). Participants were presented with a list of 30 mate traits (Table S1, Supplemental materials) and asked to rate how much they valued each item in a short-term, then long-term, partner. Presentation of the short- and long-term questionnaires was counterbalanced. Responses from both questionnaires were combined (i.e., two preference profiles per participant) for the Principal Component Analysis (PCA).

Analysis. We conducted a PCA on the 30 items using a varimax rotation. All items correlated .40 with at least one other item in the list, indicating acceptable factorability (Table S1, Supplemental materials). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was high, KMO = .92 (see Kaiser, 1974), and above .73 for all individual items (greater than the recommended .50). For the data, Bartlett's test

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[1] Our original intention had been to collect data exclusively from women. As such, this preliminary work was carried out on a female-only sample.

of sphericity was significant, $\chi^2(435) = 2345.23$, $p < .001$. These findings suggest that inter-item correlations were acceptably large for PCA.

Using the eigenvalue-greater-than-one rule and scree plot inflection analysis, three factors were carried forward to the final analysis. As in Lu et al.'s (2015) study, the items cluster on the same components: *Good provider* (Component 1), *Good parent* (Component 2), and *Good genes* (Component 3). To ensure that the factors were equally balanced for Study 1, the four items with the highest factor loading were carried forward for the 12-item version of the MPI. The 12 items and factor loadings are presented in Table 1. The sum a participant spent on the 12 items was subsequently aggregated for each component type (Table 1).

2.2.3.2. Tightness-looseness scale

Gelfand et al.'s (2011) six-item tightness-looseness scale measures the extent to which social norms are clearly defined and consistently imposed within a region, for example, "There are many social norms that people are supposed to abide by in this country", and, "In this country, if someone acts in an inappropriate way, others will strongly disapprove". Cultural tightness is a construct that's related to, yet distinct from, conservative political values (Harrington & Gelfand, 2014).

2.2.3.3. Tradition

Tradition was a three-item subscale from Schwartz et al.'s (2012) Portraits Values Questionnaire (Revised) (PVQ-RR). The subscale measures the extent to which individuals believe that cultural norms should be maintained. Items include "It is important to maintain traditional values or beliefs". The full version of the PVQ-RR measures 19 human values recognised cross-culturally, such as tradition, hedonism, and benevolence. The most recent version has been validated in eight countries (Cieciuch, Davidov, Vecchione, Beierlein, & Schwartz, 2014).

2.2.4. Controlling for confounds

It is possible that conservatives, rather than demonstrating a bias, instead find it difficult to discriminate between short- and long-term mates. Specifically, their lack of experience with short-term mating could impair their performance in this task. This would suggest that, given sufficient exposure to short-term mating, individuals from conservative groups would eventually demonstrate a distinctive short-term mating strategy. To control for this we administered the Behaviour subscale from the SOI-R (SOI-B) (Penke & Asendorpf, 2008), a three-item measure that measures an individual's level of sexual experience, and has good internal consistency, $\alpha = .85$. The items included "With how many different partners have you had sexual intercourse on *one and only one* occasion?".

2.2.5. Procedure

Participants completed the Tightness-Looseness Scale, the SOI-B, and the PVQ-RR. Next, participants were asked to construct their ideal romantic partner by spending 30 Mate Dollars on 12 traits (see Table 1). Instructions indicated that each dollar spent was equivalent to 10 percentile points. For example, a $5 spend on the trait 'athletic' was equivalent to 'buying' a mate who is more athletic than 50% of the population. A participant's preference for traits was calculated by aggregating their spend on each trait component listed in Table 1.

At the start of each trial, participants were told to construct either their ideal "short-term partner (i.e., one-night stand)" or "long-term partner (i.e., husband/wife)" (deleted, as appropriate, based on participant sex). The presentation order of the relationship context variable was counterbalanced across participants.

2.3. Results

2.3.1. Tightness-looseness validation

As a confirmatory measure, we tested whether our target regions differed in their average tightness scores (Table 2). Planned contrast

Table 1

Mate Preference Inventory (MPI) items and factor loadings ($N = 151$).

	Component		
	Good provider	*Good parent*	*Good genes*
Good income	**.75**	.10	.16
Industrious	**.74**	.11	−.07
Ambitious	**.72**	.10	.13
Successful career	**.72**	.13	.19
Considerate	.04	**.84**	.12
Kind	.09	**.82**	.04
Caring	.20	**.80**	−.03
Patient	.25	**.78**	.03
Good body	.06	.01	**.85**
Good looking	.02	.00	**.82**
Athletic	.26	−.12	**.71**
High sex drive	.01	.02	**.60**
Eigenvalues	9.10	3.37	2.56
Proportion of variance	.24	.17	.12
α	.84	.88	.84

Note. Factor loadings above .60 appear in bold.

Table 2

Mean (SD) scores for individual-level measures, aggregated by nationality and sex.

Item	India		UK		USA	
	Female	Male	Female	Male	Female	Male
Tightness	26.62	24.91	24.51	23.80	24.53	23.33
	(4.28)	(3.03)	(3.44)	(3.47)	(3.97)	(4.24)
SOI-B	5.39	8.46	8.56	9.08	7.24	10.94
	(3.47)	(4.99)	(5.09)	(5.48)	(4.24)	(6.91)
Tradition	13.61	12.69	9.15	9.14	8.33	9.51
	(3.97)	(3.40)	(4.05)	(4.47)	(4.13)	(4.36)

analysis revealed that participants from India were significantly more tight than those in the UK and USA, $t(515) = -4.148$, $p < .001$, but that participants from UK and USA did not significantly differ in their tightness score, $t(515) = 0.04$, $p > .05$. Men's tightness scores were significantly lower than women's, $t(515) = -3.61$, $p < .001$, but the Nationality × Sex interaction was not significant (India vs. UK & US: $t(515) = 1.05$, $p > .05$; UK vs. US: $t(515) = -0.62$, $p > .05$).

2.3.2. Short- and long-term preferences

We first asked whether individuals from the USA and UK display more distinctive short- and long-term mate preferences than Indian participants. To simplify interpretation of the results, we analysed spend on good genes, good parent, and good provider traits in isolation. For each trait type, a three-way, mixed ANOVA was performed on participants' spend, with sex (male, female) and nationality (India, US, UK) as between-subjects factors, and context (short-term, long-term) as a within-subject factor.

2.3.2.1. Good genes.

The main effect of nationality was significant, $F(2, 515) = 19.21$, $p < .001$, $\eta_G^2 = .04$ (Fig. 1 (a) and (d)). Planned contrasts showed that Indian participants spent significantly less on good genes than non-Indian participants, $t(515) = 6.73$, $p < .001$, but that UK and US participants were matched on spend, $t(515) = -0.86$, $p > .05$ (Table 3). Sex was also significant, with men spending significantly more on good genes than women, $F(1, 515) = 92.75$, $p < .001$, $\eta_G^2 = .10$. We observed a significant effect of context, with participants spending more on good genes in the short-term context $F(1, 515) = 523.39$, $p < .001$, $\eta_G^2 = .30$.

The Nationality × Sex interaction was significant, $F(2,515) = 4.87$, $p < .01$, $\eta_G^2 = .01$. Planned contrasts showed that Indian men spent approximately \$2.36 more on good genes traits, relative to Indian

women, $t(515) = -2.92$, $p < .01$, $d = -0.41$. The difference between male and female spend was \$5.71 in the UK, $t(515) = -7.66$, $p < .001$, $d = -0.65$, and \$4.83 in the US, $t(515) = -6.32$, $p < .001$, $d = -0.54$.

The Nationality × Context interaction was significant, $F(2,515) = 55.90$, $p < .001$, $\eta_G^2 = .08$. The difference between short- and long-term spend was greater in the liberal regions than in India, $t(515) = 6.73$, $p < .001$, but that there was no difference between the USA and UK, $t(251) = 0.03$, $p > .05$. For good genes, short- and long-term preferences were more distinctive in the UK and USA, relative to India.

Neither the Sex × Context interaction, $F(1,515) = 2.78$, $p > .05$, $\eta_G^2 < .002$, nor the Nationality × Sex × Context interaction, $F(1,515) = 0.07$, $p > .05$, $\eta_G^2 < .001$, reached significance.

2.3.2.2. Good parent.

The main effect of Sex was significant, $F(1,515) = 64.62$, $p < .001$, $\eta_G^2 = .07$, with women spending significantly more on good parent traits (Fig. 1 (b) and (e)). Context was also significant, such that participants spent more on good parent in the long-term context $F(1,515) = 304.89$, $p < .001$, $\eta_G^2 = .16$ (Table 3). However, nationality did not predict spend on good parent traits, $F(1,515) = 2.55$, $p > .05$, $\eta_G^2 = .01$.

We observed a Nationality × Sex interaction, $F(2,515) = 6.97$, $p < .01$, $\eta_G^2 = .02$, with planned contrasts showing that Indian women spent approximately \$1.07 more on good parent traits, relative to Indian men, $t(515) = 1.32$, $p > .05$, $d = 0.20$. However, the difference between male and female spend was \$4.53 in the UK, $t(515) = 6.05$, $p < .001$, $d = 0.59$, and \$4.86 in the US, $t(515) = 6.34$, $p < .001$, $d = 0.64$.

The Nationality × Context interaction was significant, $F(2,515) = 39.46$, $p < .001$, $\eta_G^2 = .05$. Planned contrasts revealed that the difference between short- and long-term spend was smaller in India than in the liberal regions, $t(515) = 2.40$, $p < .05$, but that there was no difference between the USA and UK, $t(515) = -0.60$, $p > .05$.

Neither the Sex × Context interaction, $F(1,515) = 0.15$, $p > .05$, $\eta_G^2 < .001$, nor the Nationality × Sex × Context interaction, $F(2,515) = 0.32$, $p > .05$, $\eta_G^2 < .001$, reached significance.

2.3.2.3. Good provider.

Overall, women spent significantly more on good provider traits than men, $F(1,515) = 6.38$, $p < .05$, $\eta_G^2 = .09$ (Fig. 1 (c) and (f)). We also observed a main effect of nationality, $F(2,515) = 68.19$, $p < .001$, $\eta_G^2 = .15$, such that Indian participants spent significantly more on good provider traits, $t(515) = -13.16$, $p < .001$, but spend was matched in the US and UK, $t(515) = -1.83$, $p > .05$ (Table 3). The main effect of context was significant, with spend on good provider traits higher in the long-term context, $F(1,515) = 154.19$, $p < .001$, $\eta_G^2 = .09$.

We observed a Sex × Context interaction, $F(1,515) = 9.68$, $p < .01$, $\eta_G^2 = .01$. Women spent significantly more than men in the long-term context, $t(941) = 3.87$, $p < .001$, but spend was matched in the short-term context, $t(941) = 0.21$, $p > .05$.

The Nationality × Context interaction was significant, $F(2,515) = 8.74$, $p < .001$, $\eta_G^2 = .01$. Planned contrasts showed that Indians spent significantly more than US and UK participants, in both the short- and long-term contexts (all $ts > 5.2$; all $ps < .001$). However, spend between US and UK participants was matched in both the short- and long-term contexts (all $ts < 1.40$; all $ps > .28$).

The Nationality × Sex interaction, $F(2,515) = 1.79$, $p > .05$, $\eta_G^2 < .005$, plus the Nationality × Sex × Context interaction, $F(2,515) = 1.02$, $p > .05$, $\eta_G^2 = .001$, did not reach significance.

2.3.3. Tradition and mate preference

Next, we investigated whether short- and long-term preferences are predicted by an individual's desire to maintain social norms. Mean tradition scores are reported by nationality and sex in Table 2. To aid
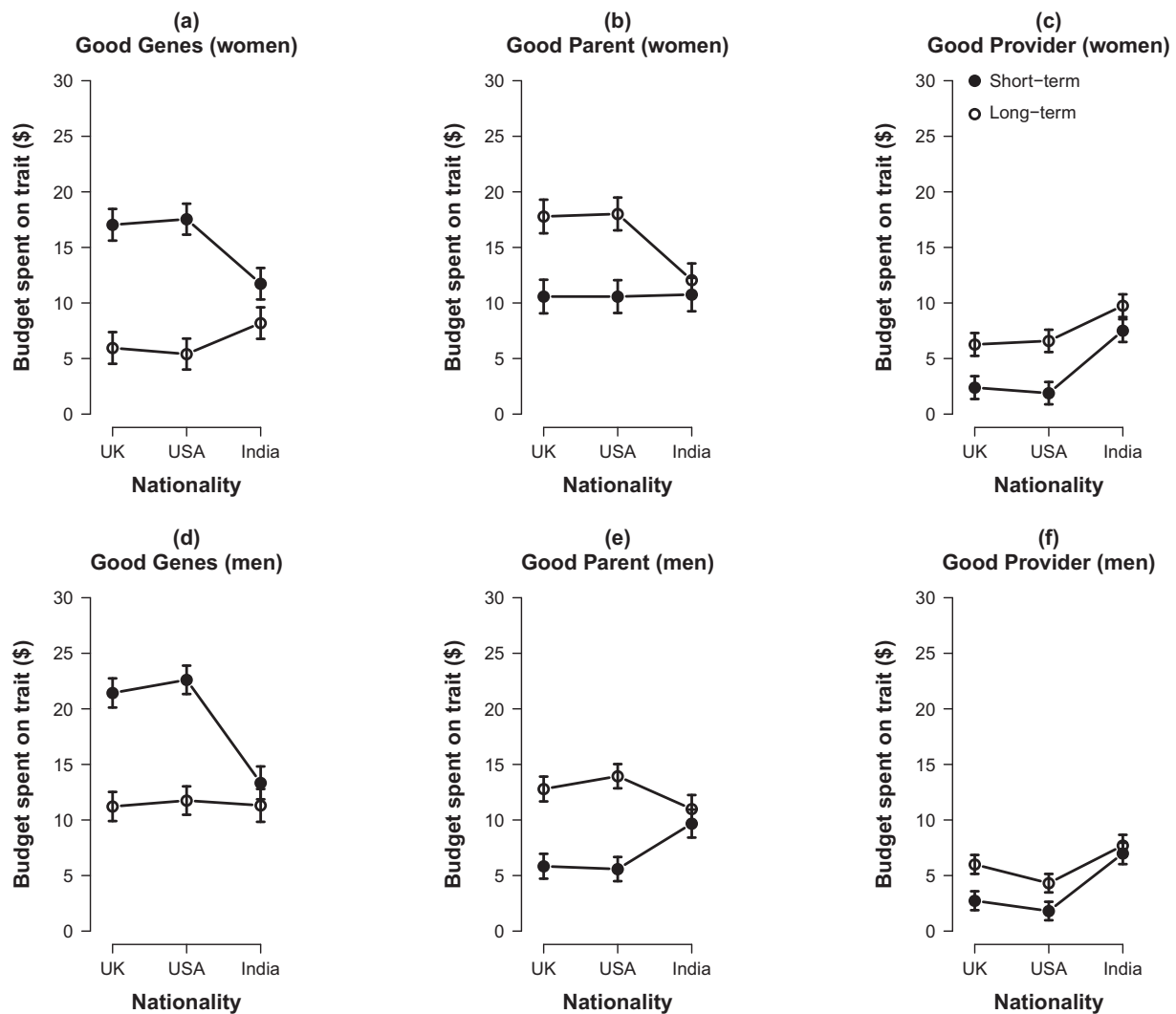
Fig. 1. Mean spend by nationality, as a function of relationship context for women (top row) and men (bottom row). Left = good genes, centre = good parent, and right = good provider traits. *Note.* Error bars denote 95% confidence intervals.

Table 3
Mean spend on traits by nationality, as a function of short-term (ST) and long-term (LT) relationship contexts, the difference (Diff.) between ST and LT, and Cohen's *d* (*d*).

		ST	LT	Diff.	*d*
Good genes	India	12.48	9.65	− 2.83	− 0.50
	UK	20.24	8.78	− 11.46	− 1.59
	US	19.37	8.75	− 10.62	− 1.39
Good parent	India	10.25	11.55	1.30	0.24
	UK	7.92	15.84	7.93	1.14
	US	8.06	15.13	7.07	1.00
Good provider	India	7.27	8.79	1.53	0.33
	UK	1.84	5.38	3.53	0.82
	US	2.57	6.12	3.55	0.76

interpretation of the results, good genes, good parent, and good provider traits were analysed in isolation.

2.3.3.1. Good genes. Do non-traditional individuals display more distinctive short- and long-term mate preferences than traditional individuals? The main effect for tradition (PVQ-RR) was significant, *F* (1,517) = 38.94, *p* < .001, η_G^2 = .04, with more traditional individuals spending less on good genes traits. We also observed a significant Tradition × Context interaction, *F*(1,517) = 57.36, *p* < .001, η_G^2 = .04,

indicating that low tradition scores are associated with more distinctive short- and long-term mate preferences (Fig. 2 (a) and (d)). Regression slope analyses revealed that tradition negatively predicted spend on good genes traits in the short-term context, *β* = − 0.32, *t* (519) = − 7.80, *p* < .001, but did not predict spend in the long-term context, *β* = 0.00, *t*(252) = 0.05, *p* = .96.

Neither the tradition × Sex, Sex × Context, nor Tradition × Sex × Context interactions reached significance (all *F*s < 3.5; all *p*s > .06).

2.3.3.2. Good parent. The main effect of tradition did not predict participants' spend on good parent traits, *F*(1,517) = 2.20, *p* > .05, η_G^2 = .002 (Fig. 2 (b) and (e)). However, the Tradition × Context interaction was significant, *F*(1,517) = 32.88, *p* < .001, η_G^2 = .02, indicating that individuals high on traditionalism had converging short- and long-term mate preferences (Fig. 2). Regression slope tests showed that tradition positively predicted spend on short-term traits, *β* = 0.09, *t*(252) = 2.10, *p* = .036, but negatively predicted spend in the long-term context, *β* = − 0.20, *t*(252) = − 4.64, *p* < .001.

The Tradition × Sex interaction was significant, *F*(1,517) = 4.96, *p* < .05, η_G^2 = .01. Regression slope tests showed that tradition negatively predicted spend among women, *β* = − 0.11, *t*(506) = − 2.48, *p* < .05, but did not predict men's spend, *β* = 0.03, *t*(532) = 0.64, *p* > .05.
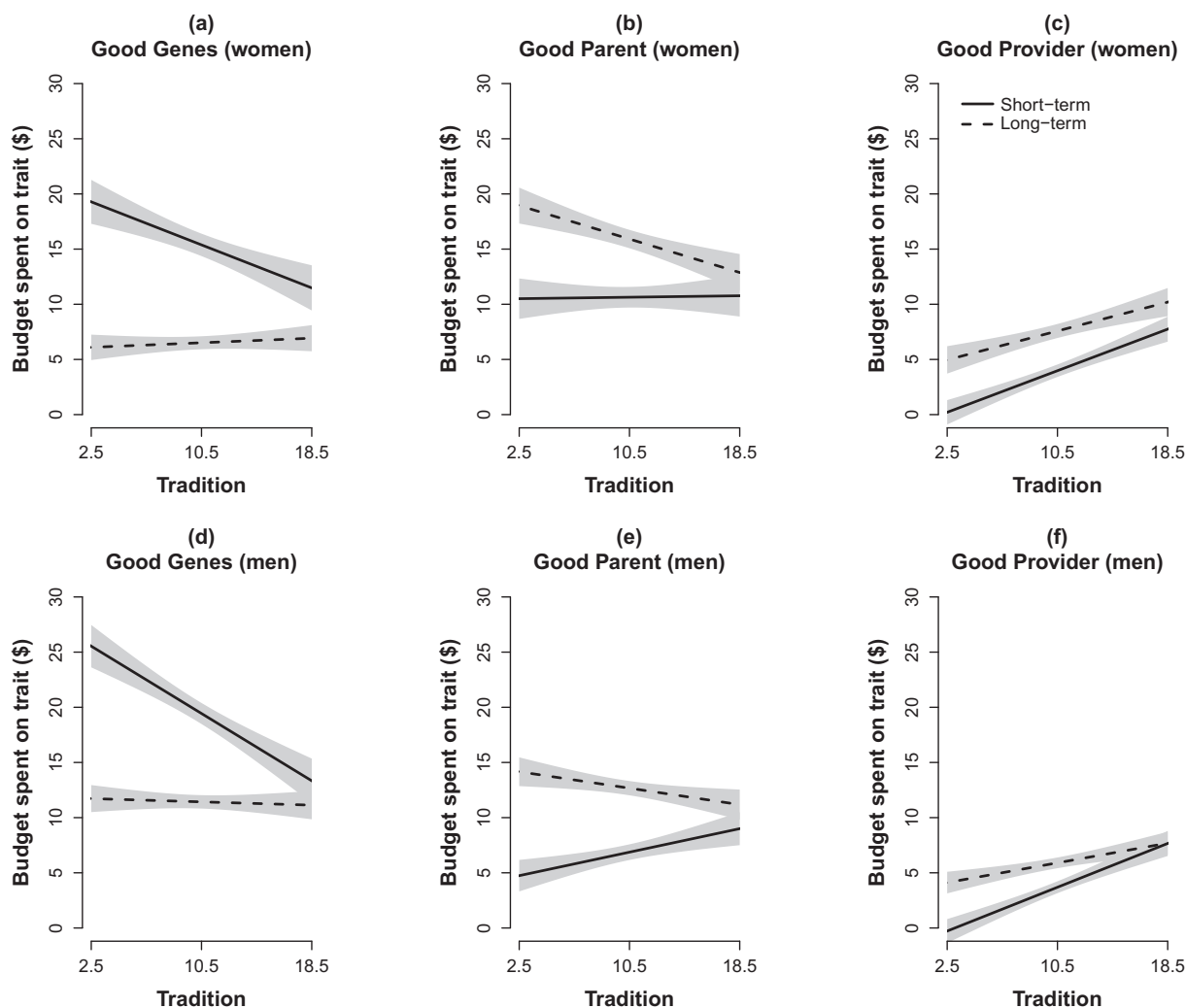
Fig. 2. Mean spend by tradition score, as a function of relationship context for women (top row) and men (bottom row). Left = good genes, centre = good parent, and right = good provider traits. *Note*. Shading denotes 95% confidence intervals.

The Tradition × Sex × Context interaction was not significant, $F(1,517) = 0.15$, $p > .05$, $\eta_G^2 < .001$.

2.3.3.3. Good provider. Overall, tradition was associated with an increased preference in good provider traits, $F(1,517) = 112.92$, $p < .001$, $\eta_G^2 = .13$ (Fig. 2 (c) and (f)). The Tradition × Context interaction was significant, $F(1,517) = 16.44$, $p < .001$, $\eta_G^2 = .01$. Specifically, tradition positively predicted spend in the short-term context, $\beta = 0.44$, $t(519) = 11.14$, $p < .001$, and the long-term context, $\beta = 0.26$, $t(519) = 6.19$, $p < .001$.

Neither the Tradition × Sex, nor the Tradition × Sex × Context interactions reached significance (all $Fs < 1.6$; all $ps > .20$).

2.3.4. Sexual experience

Are the observed effects driven by differences in sexual experience? To control for experience, we tested whether the SOI-B score predicted whether participants' demonstrated distinctive mate preferences. Mean sexual experience is reported by nationality in Table 2. In the multiple regression model, context (short-, long-term) and trait (good genes, good parent, good provider) were the within participants factors and SOI-B score was the between-participants factor. Neither the SOI-B × Context interaction, $F(1,519) = 0.00$, $p > .05$, $\eta_G^2 < .001$, nor the SOI-B × Context × Trait interactions were significant, $F(2,1038) = 0.00$, $p > .05$, $\eta_G^2 < .001$. Hence we can conclude that sexual experience does not predict whether individuals have distinctive

short- and long-term mate preferences.

2.4. Discussion

When choosing a partner, individuals can benefit from prioritising different attributes for short- and long-term mating. However, Study 1 shows that socially conservative participants were less likely to have distinctive mate preferences. This was also affected by individual differences in motivation to maintain traditional values, indicating that conservative norms may restrict participation in short-term mating.

We also observed that, independent of relationship context, conservatism (measured at the societal- and individual-level) negatively predicted spend on good genes, but positively predicted spend on good provider traits. Further, women low on tradition spent more on good parent traits, but there was no association between tradition and good parent spend among men. This is consistent with previous findings that, as societies become increasingly progressive and women gain parity with men, women increasingly favour good parents over good providers (Lu et al., 2015; Stanik & Ellsworth, 2010). As women gain economic independence, there is less pressure to secure a mate who can provide financially. Instead, it becomes increasingly important to find a mate who can contribute at home.

We observed further sex differences with respect to trait preference. Although men spent more than women to obtain good genes traits, women spent more than men on good parent and good provider traits.

This supports a wealth of literature suggesting that men prioritise cues of fertility, but women prioritise cues of resources (e.g., Buss, 1989; Kamble, Shackelford, Pham, & Buss, 2014; Conroy-Beam, Buss, Pham, & Shackelford, 2015; Souza, Conroy-Beam, & Buss, 2016).

Finally, we found that differences between men and women were smallest in India, but matched in the US and UK. This could be driven, in part, by converging short- and long-term preferences in this region. More broadly, this might reflect less variance in behaviour in conservative regions.

In sum, Study 1 showed that the ideal short- and long-term mates are less distinctive for conservatives. This provides support for our prediction that conservatives demonstrate a bias, which makes it difficult for them to perceive an ideal short-term mate. The purpose of Study 2 was to further examine this prediction.

3. Study 2

3.1. Introduction

Although highlighting that conservatism is positively associated with indistinguishable short- and long-term mate preferences, the methodology of Study 1 does not directly address our proposition that those from conservative groups possess a long-term mate bias, compared with those from liberal groups. For example, it is possible that Indian participants possess similar short- and long-term preferences, but that this reflects long-term preferences that more closely resemble an individual's short-term ideal (compared with the UK and USA samples). We addressed this by presenting participants with descriptors of the archetypal one-night stand and spouse, then tested their perceptions of these archetypes as suitable for comparatively longer relationships.

3.2. Method

3.2.1. Participants

Owing to the novel nature of our methodology, we could not base our target sample size on effect size estimates. Instead, we chose a target sample size that was comparable with Study 1 (target $N \approx 80$). Post hoc analyses showed that the observed power was $\geq .81$ for all key tests.

We recruited 322 individuals (women = 156, men = 166) from India and the US via Amazon Mechanical Turk. All participants were aged 18–63 ($M = 31.57$; $SD = 8.08$), heterosexual, and financially reimbursed for their time.

3.2.2. Procedure

Following completion of the PVQ-RR questionnaire, participants were presented with two vignettes that described either the archetypal short-term ('ideal fling') or long-term ('ideal spouse') partner (adapted from Simpson & Gangestad, 1992):[2]

Ideal fling   Person A is considered physically attractive and "sexy". He [she] has a sort of charisma that attracts the attention of those around him [her]. Although some might consider him [her] arrogant, A possesses a kind of self-confidence that others admire. A is not known, however, for living a responsible lifestyle. In the past, he [she] has had a series of relatively short-term relationships. Some have ended because of questionable faithfulness on the part of A.

Ideal spouse   Person B is an average-looking person, someone most people wouldn't consider "sexy". He [she] is sufficiently socially skilled but does not possess the kind of magnetic personality that draws the attention of others. Rather, B has a stable and responsible personality. In a relationship, B is

caring, dependable and faithful. He [she] would very much like to have a family, likes children, and would probably be good with them.

The ideal fling possesses good genes, but lacks good parent and good provider traits; this pattern is reversed in the ideal spouse vignette. This matches our findings in Study 1, which found that participants from all regions favoured good genes traits in a short-term partner, but good parent and good provider traits in a long-term partner. As such, the ideal fling vignette comprised of the traits that liberal *and* conservatives claimed to value in short-term, but not long-term, relationships (Study 1).

Presentation of vignettes was counterbalanced. For each archetype, participants were asked to rate the type of relationship they'd *ideally* have with the person described: "Select the type of relationship you'd most like to have with this man [woman], if there were no consequences for your choice. Consequences could include judgements from your family, friends, society, etc"; and the relationship they'd most *realistically* have with the individual described: "Select the type of relationship you'd most realistically have with this man [woman]".

To measure whether participants believed that their ratings were in line with their peers, we asked them to estimate the ratings of other same-sex participants: "Select the type of relationship you think most other women [men] would like to have with this man [woman], if there were no consequences for their choice. Consequences could include judgements from your family, friends, society, etc."; and "Select the type of relationship you think most other women [men] would most realistically have with this man [woman]". To incentivise thoughtful and truthful answers, participants were told that the individuals with the most accurate estimates would receive a 20 USD Amazon voucher, in addition to their participation fee.

Participants selected their response using a moveable slider that ranged from 0 (labelled in the console as 'one-night stand') to 100 (labelled as 'husband' for female participants and 'wife' for male participants). At the start of each trail, the slider was set at the midpoint (50). Responses for the Ideal and Realistic condition were significantly correlated, $r = .91$, $p < .001$, and are combined hereafter.

3.2.3. Design

In a mixed-factorial design, nationality (USA, India) and sex (male, female) were the between-subject factors. Perspective (self, third-party) and archetype (ideal fling, ideal spouse) were the within-subject factors. The dependent variable was participants' relationship preference (from 0 to 100).

3.3. Results

3.3.1. Tradition by nationality and sex

Tradition scores were highest among Indian women, ($M = 15.20$, $SD = 2.36$, 95% CI [15.0, 15.4]), followed by Indian men, ($M = 13.80$, $SD = 2.90$, 95% CI [13.5, 14.0]). Next were US men, ($M = 9.71$, $SD = 4.23$, 95% CI [9.39, 10.00]), followed by US women, ($M = 8.86$, $SD = 4.65$, 95% CI [8.49, 9.22]).

3.3.2. Nationality

3.3.2.1. Self-reports.

We first asked whether participants from India (vs. USA) were more likely to perceive the ideal fling as a potential long-term mate. A three-way mixed ANOVA was performed on participants' ratings, with sex (male, female) and nationality (India, US) as the between-subjects factors, and archetype (ideal fling, ideal spouse) as the within-subjects factor. Overall, the main effect of archetype was significant, $F(1,313) = 603.63$, $p < .001$, $\eta_G^2 = .54$, indicating that participants favoured long-term relationships with the spouse archetype, but short-term relationships with the fling archetype. The main effect of nationality was significant, $F(1,313) = 42.75$, $p < .001$, $\eta_G^2 = .05$, with participants in India favouring comparatively longer relationships. However, the main effect of sex was not significant, F

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[2] Square parentheses indicate the pronouns presented to male participants; female participants were presented with non-parenthesised pronouns.
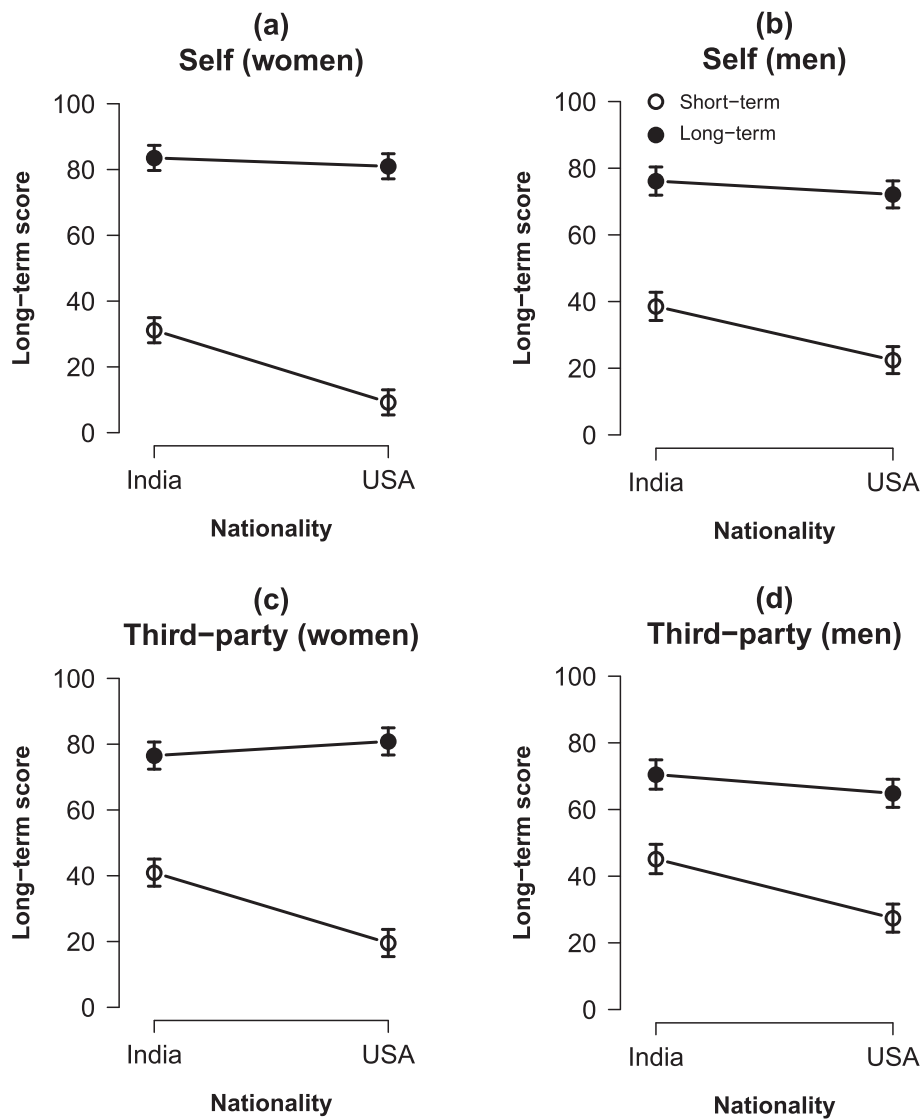
Fig. 3. Mean score for preferred relationship length (0 = short-term; 100 = long-term), as a function of nationality, relationship context, and sex, for (a, b) self-reports of relationship preference, and (c, d) estimates of a third party's preference. *Note.* Error bars denote 95% confidence intervals.

$(1,313) = 0.44$, $p > .05$, $\eta_G^2 = .001$.

We observed a Nationality × Archetype interaction, $F(1,313) = 13.30$, $p < .001$, $\eta_G^2 = .03$, such that US participants differentiated between the vignettes more-so than Indian participants (Fig. 3 (a) and (b)). Post-hoc comparisons using the Bonferroni correction indicated that Indian (vs. US) participants favoured longer relationships with the ideal fling prospect, $t(574.18) = 8.39$, $p < .001$, $d = 0.67$, but that ratings for the ideal spouse were matched across India and the US, $t(631.81) = -4.32$, $p > .05$, $d = 0.15$.

We also observed a significant Sex × Archetype interaction, $F(1,313) = 18.50$, $p < .001$, $\eta_G^2 = .04$, indicating that women's preferences were more distinctive than men's. Bonferroni-adjusted comparisons revealed that women (vs. men) favoured comparatively shorter relationships with the ideal fling, $t(631.81) = -4.32$, $p < .001$, $d = 0.34$. Additionally, women (vs. men) favoured longer relationships with the ideal spouse, $t(628.64) = 4.40$, $p < .001$.

The Nationality × Sex and Nationality × Sex × Archetype interactions did not reach significance (all $Fs < .80$, all $ps > .39$).

3.3.2.2. Third-party estimates. Next, we asked whether participants believed that their preferences would be shared by same-sex participants. As with self reports, we conducted a three-way mixed

ANOVA on participants' ratings, with sex (male, female) and nationality (India, US) as the between-subjects factors, and archetype (ideal fling, ideal spouse) as the within-subjects factor. Overall, the main effect of archetype was significant, $F(1,313) = 308.71$, $p < .001$, $\eta_G^2 = .39$, indicating that participants predicted that others would favour long-term relationships with the spouse archetype, but short-term relationships with the fling archetype. Ratings differed as a function of nationality, $F(1,313) = 34.98$, $p < .001$, $\eta_G^2 = .04$, with participants in India predicting comparatively longer relationship preferences. However, ratings between men and women were matched, $F(1,313) = 2.15$, $p > .05$, $\eta_G^2 = .002$.

The Nationality × Archetype interaction was significant, $F(1,313) = 17.11$, $p < .001$, $\eta_G^2 = .03$, indicating that US participants differentiated between the vignettes more-so than Indian participants (Fig. 3 (c) and (d)). Post-hoc comparisons using the Bonferroni correction indicated that Indian participants predicted longer relationship preferences for the ideal fling, $t(594.94) = 8.22$, $p < .001$, $d = 0.66$, but that ratings for the ideal spouse were matched across India and the US, $t(631.58) = -0.49$, $p > .05$, $d = 0.04$.

We also observed a significant Sex × Archetype interaction, $F(1,313) = 14.30$, $p < .001$, $\eta_G^2 = .03$, indicating that women's ratings were more distinctive than men's. Bonferroni-adjusted comparisons

Table 4
Multiple regressions for preferred relationship duration as a function of tradition, sex, and archetype.

Predictor	Dependent variables			
	Self		Third-party	
	β	p	β	p
Tradition	0.23	< .001	0.25	< .001
Sex	0.08	.43	0.10	.17
Archetype	0.98	< .001	1.13	< .001
Tradition × Sex	0.07	.48	− 0.01	.09
Tradition × Archetype	− 0.17	.001	− 0.48	< .001
Sex × Archetype	− 0.03	< .001	− 0.43	< .001
Tradition × Sex × Archetype	− 0.20	.17	0.22	.17

revealed that women (vs. men) favoured longer relationships with the ideal spouse, $t(627.78) = 5.72$, $p < .001$, $d = 0.45$. However, both sexes were matched in their predictions of ideal fling ratings, $t(631.36) = -2.30$, $p > .05$, $d = 0.18$.

The Nationality × Sex and Nationality × Sex × Archetype interactions did not reach significance (all $Fs < 2.30$, all $ps > .13$).

3.3.3. Tradition
3.3.3.1. Self-reports.
Are traditional individuals more likely than liberals to perceive potential mates as suited to long-term relationships? Overall, traditional participants favoured longer relationships, $F(1,313) = 49.38$, $p < .001$, $\eta_G^2 = .06$. The Tradition × Archetype interaction was significant, $F(1,313) = 10.32$, $p < .01$, $\eta_G^2 = .02$, indicating that traditional participants demonstrated less distinctive preferences (Table 4). Regression slope tests showed that traditional (vs. non-traditional) individuals favoured longer relationships with the ideal fling, $\beta = 0.31$, $t(632) = 8.25$, $p < .001$, and the ideal spouse, $\beta = 0.11$, $t(632) = 2.78$, $p < .01$. Individuals high on tradition were more likely to perceive the archetypes as suitable for comparatively longer relationships.

Neither the Tradition × Sex, nor the Tradition × Sex × Archetype interactions reached significance (all $Fs < 2$, all $ps > .16$).

3.3.3.2. Third-party estimates.
Additionally, more traditional participants estimated that others would favour longer relationships, $F(1,313) = 25.44$, $p < .001$, $\eta_G^2 = .03$. The Tradition × Archetype interaction was significant, $F(1,313) = 13.45$, $p < .001$, $\eta_G^2 = .03$, with traditional participants demonstrating less distinctive preferences (Table 4). Regression slope tests showed that traditional (vs. non-traditional) individuals predicted longer preferences for the ideal fling, $\beta = 0.27$, $t(632) = 7.10$, $p < .001$. However, tradition did not predict ratings for the ideal spouse, $\beta = 0.02$, $t(632) = 0.40$, $p > .05$. Individuals high on tradition predicted that same-sex others would view the ideal fling as suitable for comparatively longer relationships.

Neither the Tradition × Sex, nor the Tradition × Sex × Archetype interactions reached significance (all $Fs < 3$, all $ps > .08$).

3.4. Discussion

Study 2 used two approaches to measure perceptions of prospective romantic interests. We found that participants, independent of nationality or traditionalism, identified the archetypal fling as suitable for short-term relationships, relative to the archetypal spouse. However, participants from the conservative region (India), as well as traditional participants from all regions, demonstrated relatively longer relationship preferences. This was largely specific to their ratings of ideal flings. That is, although liberals and conservatives similarly viewed the ideal spouse as a suitable long-term mate, conservatives demonstrated a tendency to favour longer relationships with the ideal fling, despite a lack of commitment-compatible traits. However, there was one

exception to this trend. Tradition scores positively predicted the preferred relationship length for ideal spouses, as well as ideal flings, suggesting that traditional participants were particularly long-term-oriented for all relationships.

Contrary to previous findings, we found that men and women were matched for their preferred relationship length. Traditional accounts maintain that men are more short-term oriented (Schmitt, 2012; Schmitt et al., 2012), although this perspective has faced recent criticisms (Thomas & Stewart-Williams, 2018; Hallam, De Backer, Fisher, & Walrave, 2018; Stewart-Williams & Thomas, 2013; Zentner & Mitura, 2012). Although we do not find sex differences in preferred relationship length, we did observe an interaction with archetype, such that women's preferences were more distinctive than those reported by men. Specifically, women favoured shorter relationships with the ideal fling, but longer relationships with the ideal spouse.

To summarise, we found that conservatives believed that the one-night stand prospect more closely resembled a long-term mate, relative to liberals. The variance between perceptions of the ideal fling and ideal spouse was greatest among liberals, indicating that those participants adopted two distinctive sexual strategies (i.e., short-term mating with the ideal fling; long-term mating with the ideal spouse). This supports the claim that individuals from liberal groups are more likely to demonstrate distinctive short- and long-term preferences, whereas those from conservative groups over-perceive some mates' suitability as a long-term partner.

4. General discussion

How do differences in specific social norms shape the traits we seek in short-term and long-term partners? We examined perceptions of the ideal short- and long-term mate; in doing so, we found that conservatives demonstrate a regional- and individual-level bias, such that they believe that potential mates lacking in desired long-term traits (e.g., status, emotional warmth) are nonetheless suitable for comparatively longer relationships.

In Study 1, we found that liberals prioritise genetic traits when choosing a short-term mate, but parental quality is favoured for long-term mates. However, ideal short- and long-term mates were less distinct for conservatives. When asked to describe their ideal short-term partner, conservatives described a mate who shared similar traits to their ideal long-term partner. This effect was replicated for two measures of conservatism-liberalism. Study 2 found that, relative to liberals, conservatives were more willing to invest in long-term relationships with hypothetical partners. This was unique to the ideal fling condition; for the ideal spouse condition, both groups successfully identified that the target mate was suited for a long-term relationship. This is particularly interesting, given that the ideal fling was comprised of the traits that conservatives claimed to value in short-term, but not long-term, relationships (Study 1). Taken together, these findings support our prediction that conservatism - at the regional- and individual-level - moderates mate preferences, such that individuals avoid short-term mating, foregoing a potential genetic payoff for their offspring.

4.1. Social and adaptive benefits of a long-term mate bias

These findings offer clarity to our understanding of how social norms shape evolved mate preferences. Most research has approached mate preference from the perspective of evolutionary-based goals (i.e., maximising fitness) or social goals (i.e., conforming to group norms). The present research offers something new by investigating how, and when, humans avoid short-term mating, passing on the genetic payoff.

The findings also indicate that evaluations of a prospective mate is weighted by social norms surrounding sexuality. According to this approach, short-term mating is a viable mating strategy in liberal groups, so long as the potential mate has an acceptably high good genes value. Put another way, if the benefits to offspring outweigh the costs, even

conservatives should consider short-term mating. However, for individuals in conservative groups, short-term mating is *only* viable when the target mate possesses an exceptionally high good genes value. In practice, this means that conservatives will view mates who possess good genes traits, but lack parental traits, as nonetheless being suited to comparatively longer relationships. These findings complement observational data, which has found that individuals from conservative regions have a higher threshold for short-term mating (Schmitt, 2002; Muggleton & Fincher, 2017; Thornhill et al., 2009) and are less willing to divorce spouses who are poor long-term partners (Vandello & Cohen, 1999).

It is interesting to note that, when financially incentivised to guess other participants' ratings, the long-term bias persisted. This suggests that conservatives have internalised the bias, such that they believe others will similarly rate the poor long-term prospect as being suitable for a committed relationship. Rather than a personal preference for long-term mating, conservatives did not indicate that the potential mate described in the ideal fling context is poorly suited to parenting, responsibility, or commitment, and was thus a poor choice for a long-term mate. These findings are comparable to Durante et al.'s (2012) work, which finds that ovulating women overperceive *sexy cads'* suitability as good dads. The authors suggested that this perceptual bias evolved to induce women into mating with good genes males during peak fertility.

An alternative explanation could be that conservatives rated ideal fling partners as suited to long-term mating because they have less access to high quality mates. However, given that conservatism did not predict evaluations of the ideal spouse, it is unlikely that mate scarcity or quality could account for these findings. Additionally, if conservatives are particularly attracted to fertility cues, we should have seen greater spend on good genes traits in Study 1. Instead, conservatism negatively predicted spend on good genes traits. This indicates that our findings are not attributable to mate scarcity in conservative cultures.

More broadly, our findings conform with previous observations that natural selection favours behaviours that steer us away from the most costly error (Nesse, 2005; Haselton et al., 2015; Schaller & Park, 2011). In liberal groups, mating with the individual described in the one-night stand context is more costly in the long-term than the short-term. In conservative groups, the cost of ostracism could be greater than the cost of choosing a poor life partner. As such, individuals bias their mating strategies in favour of the least costly error.

Finally, we also found that the data could not be accounted for by experience of short-term mates. Specifically, measures of conservatism, but not participants' past experience of uncommitted sex (SOI-B; Penke & Asendorpf, 2008), was a predictor of short- and long-term preferences. Hence, we can rule out the possibility that, given sufficient exposure to short-term mating, conservatives would modify their short-term mate preferences.

In sum, we find evidence that local mating customs are maintained, in part, by individuals internalising group norms. If conservatives' avoidance of short-term mating was purely driven by their fear of punishment, then this would suggest that they still desired short-term mates, but publicly suppressed their desire for uncommitted sex. However, we found that conservatism negatively predicted evidence of distinctive, short-term mate preferences. In Study 2, when asked to predict how other participants would perceive the target mates, conservatives were more likely than liberals to view potential partners as suited for longer relationships - even when the target lacked long-term traits. Hence, when exposed to conservative norms, individuals experience a shift in judgement, perceiving good genes mates as partners worth investing in.

4.2. Theoretical implications

Previous evolutionary-based accounts of human mate choice have shown that individuals trade-off between mates offering genetic and parental quality (Pillsworth & Haselton, 2006; Li et al., 2002), and that this trade-off is influenced by environmental factors, such as disease prevalence, women's educational opportunities, and average birth weight (Trivers et al., 1999; Stanik & Ellsworth, 2010; Schmitt, 2002). Although valuable, this does not account for the wider context of mate choice, such as cultural norms, a desire for high status, and respect for one's kin. This report builds on previous research, demonstrating that social, non-reproductive factors can moderate evolved mating strategies. In doing so, we sought to investigate cultural factors that can influence mate preference.

Our findings also question the extent to which findings within mate choice literature can be generalised to diverse samples. Within social psychology, there is clear evidence that attitudes are shaped by culture. To date, however, studies of mate preference have been mostly based on Western samples. Although the dual-sexual strategy has been studied extensively (e.g., Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Gangestad & Thornhill, 2008), the present findings challenge the conclusion that adoption of the dual-sexual strategy is homogenous across cultures. Instead, we provide preliminary evidence to suggest that strategies are contingent upon social norms, in addition to the genetic considerations. These findings could have significant implications for our understanding of cross-cultural differences in mate preference, as well as our understanding of mate guarding.

These findings could also have implications for the study of parental investment. Traditional accounts assume that, because men's minimum parental investment is low, they are typically the less choosy sex (Trivers, 1972). Although this may be true, our findings suggest that sex differences are modest, with men favouring long-term investment with mates who signal high-status and maternal warmth. However, men are less willing to invest in sexy mates who lack commitment traits. This is at odds with the *males-compete/females-choose* hypothesis, and converges with several recent findings suggesting that sex differences are exaggerated (Thomas & Stewart-Williams, 2018; Hallam et al., 2018; Stewart-Williams & Thomas, 2013; Zentner & Mitura, 2012).

More broadly, we believe that the findings contribute to a wider understanding of how social norms are maintained. Related to this is the notion of cultural tightness, a construct that closely resembles, but is distinct from, conservatism. Tight cultures are those with homogenous social norms and high levels of punishment for those who violate these norms (Gelfand et al., 2011). In groups where social deviance is not tolerated, individuals should internalise multiple social codes that the group enforces. For example, conservative cultures demonstrate higher prevalence of religiosity (Saroglou, Delpierre, & Dernelle, 2004). In these groups, the cost of deviance (*expressing atheist beliefs*) outweighs the costs of conforming (*religiosity*). As such, a bias for internalising religion could be adaptive. The present report has far-reaching implications for the study of social norms with respect to outgroup prejudice, gender roles, and social hierarchy.

4.3. Limitations and future research

The present study has several limitations. First, we relied solely on participants' stated preference, rather than direct measures of preferences. Although this method has been reliably adopted and validated in previous studies (Snyder et al., 2011; Gangestad, Garver, Simpson, & Cousins, 2007), and the mate budget task added an element of forced trade-off (Li et al., 2002), implicit measures (e.g., implicit-association test (IAT), face preference, process dissociation, cognitive load) would provide a more accurate measure of attraction. Future research should incorporate direct measures, which would prove more conclusive in testing the psychological mechanisms underlying this bias.

Second, Study 2 was designed as a forced-choice task, such that participants could not opt out of selecting a preferred relationship length. This was to ensure that conservative, sexually-inexperienced participants nonetheless evaluated all target mates. However, in a recent study (Thomas & Stewart-Williams, 2018) this methodology was

amended, with participants being given the offer of selecting a long-term, short-term, or no relationship with the target individual ('Snog, Marry, Avoid' paradigm). Here, the authors found that most participants chose to have neither a short- nor long-term relationship, indicating that both men and women are relatively choosy. Given this, future research might incorporate a mix of both forced-choice and opt-out studies.

Finally, this study focuses on participants' ideal mate (*mate preference*), rather than their actual mate (*mate choice*). Although the two are related, the extent to which preferences translate into choice has been contested (Wincenciak et al., 2015). Future investigations into coupled men and women, and the traits possessed by their partner, could help us to understand the extent to which a long-term mate bias manifests within conservative societies.

4.4. Conclusions

In the present report, we found that conservatives over-perceive some mates' suitability as a committed partner. This effect was specific to hypothetical mates who were ideally suited to short-term mating (i.e., sexy, but uncommitted). Ratings for ideal long-term mates (i.e., committed, but not necessarily attractive) were consistently perceived across liberals and conservatives. Although it can be prudent for individuals to favour a short-term strategy with good genes mates, the genetic benefits for offspring may be offset by the potential for social backlash. Consistent with error management theory (Haselton & Buss, 2000) and signal detection analysis (Nesse, 2005) we find that, in conservative groups, a sexy but unfaithful mate could transform from being perceived as 'just a fling' to an ideal spouse.

Open practices

The raw data from this research can be found at: https://osf.io/9246v. All variables have been clearly labelled in the accompanying .txt file. We also provide a procedural outline, should researchers wish to reproduce our methodology. Statistical analyses can be reproduced by following our instructions in the Methods and Results sections.

Acknowledgements

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.evolhumbehav.2018.06.009.

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