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Six “red flags” in relationships: From being dangerous to gross and being apathetic to unmotivated

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ABSTRACT

Given the emergence of recent factor analytic models of dealbreakers in mate choice, we re-analyzed previously published data revealing 49 negative characteristics (Jonason et al., 2015). Six dealbreaker factors emerged in a sample of American college students ($N = 285$, 115 men). We called these factors Gross, Addicted, Clingy, Promiscuous, Apathetic, and Unmotivated. Women, and those having more mate value and less interest in casual sex rated dealbreakers less desirable. The most repelling factors in the long-term context were being apathetic and gross, and in the short-term context they were being gross and clingy. We recommend incorporating both desirable and undesirable features of mate preferences in future research.

1. Introduction

There are many characteristics people want in the romantic and sexual partners (Li et al., 2002; Thomas et al., 2020). When trying to understand larger categories of mate preferences as opposed to items, researchers use top-down (Ellis et al., 2002), bottom-up (Fletcher et al., 1999), or both (Kučerová et al., 2018) methods and exploratory factor analysis (Gerlach et al., 2019) or, less often, confirmatory factor analysis (Csajbók & Berkics, 2017). In addition, researchers often attempt to understand these structures in culturally and linguistically diverse samples like China, New-Zealand, the US, and Greece (Apostolou & Eleftheriou, 2022; Fletcher et al., 1999; Kline & Zhang, 2009). If that were not enough, researchers also tend to focus on affirmative preferences or dealmakers; however, the traits that people do not want in a mate may serve as initial culling features, operating before affirmative processes take over (Apostolou & Eleftheriou, 2022; Csajbók & Berkics, 2022; Joel & Charlot, 2022; Jonason et al., 2015, 2020). Examining such characteristics may provide additional information about mate preferences. Therefore, here, we re-analyze data that was qualitatively and manually classified on people's dealbreakers in their long-term and short-term partners (i.e., Jonason et al., 2015).

When manually sorted (and tested for internal consistency), 49 dealbreakers, gathered through an act-nomination study, were classified

as Unattractiveness, Unhealthy Lifestyle, Undesirable Personality Traits, Differing Religious Beliefs, Limited Social Status, Divergent Mating Psychologies, and Differing Relationship Goals. However, manual sorting may be subject to experimenter biases so more sophisticated, quantitative techniques should be applied. Indeed, several studies have provided factorial evidence of dealbreakers. For instance, a study in Hungary found seven factors labelled as Hostile, Unattractive, Unambitious, Filthy, Arrogant, Clingy, and Abusive (Csajbók & Berkics, 2022), and a Greek speaking sample (Apostolou & Eleftheriou, 2022) yielded eleven dealbreaker factors of flirting: Vulgar vocabulary, Poor looks, Excessive intimacy, Lack of intelligence, Narcissism, Lack of humor and low self-esteem, Stinginess, Bad hygiene, Slimy approach, Different views, and Lack of exclusive interest. While it would be unreasonable to predict identical factor structures from linguistically diverse samples relying on different pools of items, we expect dealbreakers (1) to be multidimensional but fewer in number than the manually sorted list noted above and (2) be composed of features that impose costs on people like sexual health (e.g., sexually transmitted diseases), relationship threats (e.g., infidelity), and personality problems (e.g., insecurity). If similar solutions emerge, we might expect, for instance, that (a) women should view cues to being unmotivated or apathetic as more problematic than men do because they may signal that the man is unlikely to be able or willing to invest in her and her offspring, (b) mates who are more

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promiscuous should be appealing to those who are so motivated but less so for those who are high in mate value in assortative mating fashion, (c) mates who are clingy or addicted to drugs should be unappealing to those with high mate value because those with high mate value can afford to reject those who have low value, and (d) we expect these effects to be moderated by sex and relationship context.

The importance of studying dealbreakers is underpinned by the idea that people are likely to have two systems of mate choice. One system is approach-oriented which allows organisms to find mates that increase their reproductive fitness. This system has been more extensively studied because it is quite intuitive to ask people *what they want* (Li et al., 2002). In contrast, the second system is avoidance-orientated which protects organisms from losses of reproductive fitness through poor choices like not avoiding pathogen threats (i.e., threats of illness; Curtis, 2007; Curtis et al., 2004) or costly sex partners. Asking participants what they *do not want* may be less intuitive, but such considerations may reveal new information about mate choice.

To better understand individual differences in dealbreakers, we consider four variables. First, sex differences in mate preferences are sensitive to recurrent and often asymmetrical risks faced by men and women when making different kinds of relationship choices (Buss & Schmitt, 1993; Trivers, 1972). Because women have higher rates of obligatory investment in offspring, women tend to maintain higher standards (i.e., more sensitive to dealbreakers overall) and are less willing to have casual sex than men are. In contrast, men's greater investment in offspring is higher in the context of long-term relationships compared to short-term. Such obligation is minimal or absent in casual sex encounters. Therefore, although men's long-term mating psychology resembles women's (the context in which both sexes invest heavily), men tend to differ from women in their short-term mating psychology (e.g., greater willingness to have casual sex; Buss & Schmitt, 1993; limited post-coital regrets; Galperin et al., 2013). This may translate into sex \times context interactions of dealbreakers, such that men may lower their standards for dealbreakers in short-term mating contexts (e.g., casual sex), whereas women's standards may stay relatively consistent regardless the mating context (Jonason et al., 2020; White et al., 2021).

The second variable we consider is participant's age. Some research into mate preferences has found only a weak effect of age, finding that older people prefer partners who are creative, intelligent, and domestic (Buunk et al., 2002; Schwarz & Hassebrauck, 2012). Other research into dealbreakers, specifically, shows that older people tend to have more dealbreakers or rate dealbreakers overall as more problematic than younger people (Apostolou & Eleftheriou, 2022; Jonason et al., 2015). The relationship between age and mate preferences may also differ in the sexes, because, unlike men, women lose the ability to reproduce with age. However, no interaction between age and sex has been found (Schwarz & Hassebrauck, 2012). In the current study, we look within each of the sexes to examine whether men and/or women weigh dealbreakers more heavily as they age.

Third and fourth, we consider people's willingness to have casual sex (i.e., their sociosexuality; Simpson & Gangestad, 1991) and how valuable they view themselves as romantic/sexual partners (i.e., mate value; Penke et al., 2007). People who are more promiscuous may maintain lower standards in their partners—especially their short-term ones—to enable their mating strategy (Csajbók & Berkics, 2022; Jonason et al., 2015). Therefore, it seems likely that sociosexuality may be correlated with rating dealbreakers as less problematic and given the aforementioned differences in the sexual psychologies of men and women, this effect may be stronger in men than women. People who think that they are high in mate value may be more willing to reject partners because they perceive themselves as having a sufficient probability of finding another partner of better quality (Conroy-Beam et al., 2019; Csajbók & Berkics, 2022; Jonason et al., 2015). That is, those with high value on the dating market may have stronger dealbreakers than those with less, an effect that is likely to be stronger in women than in men given women's relatively higher value in the market.

To conceptually replicate previous results on dealbreakers and the role of individual differences in them, we re-analyze data on dealbreakers in short-term and long-term relationship contexts overall and within the sexes. We examine the factorial structure with confirmatory analyses. We contend that dealbreaker systems are evolved mechanisms to avoid mating mistakes that are calibrated (by experience) to a person's value on the market (i.e., age and mate value), their mating strategy (i.e., sociosexuality), and their obligatory investment in their offspring (i.e., their sex and the relationship context).

2. Method

2.1. Participants & procedure

We performed a re-analysis of data collected by Jonason et al. (2015). The sample consisted of 285 (115 men)¹ undergraduates between 18 and 55 years old ($M = 22.35$, $SD = 6.27$) from a university in the Southwestern United States. Ninety-five percent of participants were heterosexual, 50 % were in a committed relationship,² and 61 % reported being European Americans. Participants provided informed consent, completed a series of measures, were thanked and debriefed, and were compensated with extra credit for their participation. Data for this study is available on the Open Science Framework (https://osf.io/yzhxc/?view_only=e04b44e5461a4038bab93c0a3fc7d0b0).

2.2. Materials

The 22-item Mate Value Inventory (MVI; Kirsner et al., 2003) measured self-perceived mate value. Participants were asked to rate their agreement (1 = *not at all*; 5 = *very much*) with items such as “I am a person with a good sense of humor”. We aggregated items to form a mate value index. A re-analysis of the scale's internal consistency was confirmed for this data (Cronbach's $\alpha = 0.81$).

The 7-item Sociosexual Orientation Index (SOI; Simpson & Gangestad, 1991) was employed to measure participant's sexual strategies. Participants were asked to respond to questions such as “Sex without love is okay.” We z -scored (standardized) the items and then aggregated them to form a sociosexuality index. A re-analysis of the scale's internal consistency was confirmed for this data ($\alpha = 0.75$).

Participants rated how much (1 = *not at all*; 5 = *very much*) 49 items (see supplementary file) would be a dealbreaker in the context of short-term and long-term relationships. Participants were instructed that dealbreakers are “bits of information you learn about a person that might make you lose interest in this potential partner” (Jonason et al., 2015).

3. Results

First, we determined the psychometric structure of long- and short-term ratings of the 49 dealbreakers by pooling them across context and extracting an invariant factor structure across contexts. Exploratory factor analysis with principal axis factoring (a promax [oblique] rotation) identified eight dealbreaker factors that we subsequently tested using confirmatory factor analysis (CFA).

CFA was performed on the identified factors in the exploratory analyses using maximum likelihood robust estimator (MLR). Selected model fit indices were used to indicate model acceptability. Our criteria were set as to have RMSEA and SRMR lower than 0.08; CFI and TLI higher than 0.90 (Brown, 2006). Modification indices were examined to create an acceptable model fit against the data. Items loaded on six factors: Gross, Addicted, Clingy, Promiscuous, Apathetic, and

¹ This sample size meets the 200-participant minimum for factor analysis (Comrey & Lee, 2013).

² Dealbreakers did not vary by relationship status.

Unmotivated (see Fig. 1). The six-factor model yielded good fit indices (Table 1) on the overall sample of short- and long-term ratings pooled and presented measurement invariance for sex and mating contexts (Table 2). We considered the model invariant if the metric and scalar models yielded maximally only a 0.01 decrease of CFI and TLI when compared to the configural and metric models, respectively. The increase of RMSEA was acceptable only by a maximum of 0.015 following the recommendations of Chen (2007). All factors had acceptable internal consistency (i.e., Cronbach's α) in both contexts (long/short-term: $\alpha_{Gross} = 0.82/0.89$, $\alpha_{Addicted} = 0.73/0.80$, $\alpha_{Clingy} = 0.80/0.83$, $\alpha_{Promiscuous} = 0.80/0.80$, $\alpha_{Apathetic} = 0.90/0.90$, and $\alpha_{Unmotivated} = 0.75/0.88$).

Afterwards, factor means were compared between the sexes and short- and long-term contexts with a $2 \times 2 \times 6$ mixed model ANOVA. We found interactions for factors by participant sex ($F[5, 283] = 6.43, p < .001, \eta_p^2 = 0.02$; Table 3), context by participant sex ($F[1, 283] = 19.52, p < .001, \eta_p^2 = 0.07$), and factors by context ($F[5, 283] = 91.01, p < .001, \eta_p^2 = 0.24$). Additionally, we found an interaction for the factors by the mating context by participant sex ($F[5, 283] = 4.18, p < .001, \eta_p^2 = 0.02$). A main effect was also found for the factors ($F[5, 283] = 140.91, p < .001, \eta_p^2 = 0.33$), the mating context ($F[1, 283] = 130.81, p < .001, \eta_p^2 = 0.32$), and sex ($F[1, 283] = 18.10, p < .001, \eta_p^2 = 0.06$). Post hoc comparisons (Table 4) revealed that, in the long-term context, both men and women rated Apathetic as the greatest dealbreaker followed by Gross, then Clingy, then Addicted, then Unmotivated, then Promiscuous. In the short-term context, women rated Gross as the greatest dealbreaker, followed by Clingy, then Apathetic, then Addicted, then Unmotivated, then Promiscuous. Men shared this pattern. However, men rated Promiscuity as a greater dealbreaker than being unmotivated.

Between mating contexts, men rated Addictions ($t[114] = 9.41, p < .001$, Cohen's $d = 0.74$), Clingy ($t[114] = 6.34, p < .001, d = 0.68$), Promiscuity ($t[114] = 3.49, p < .001, d = 0.24$), Apathy ($t[114] =$

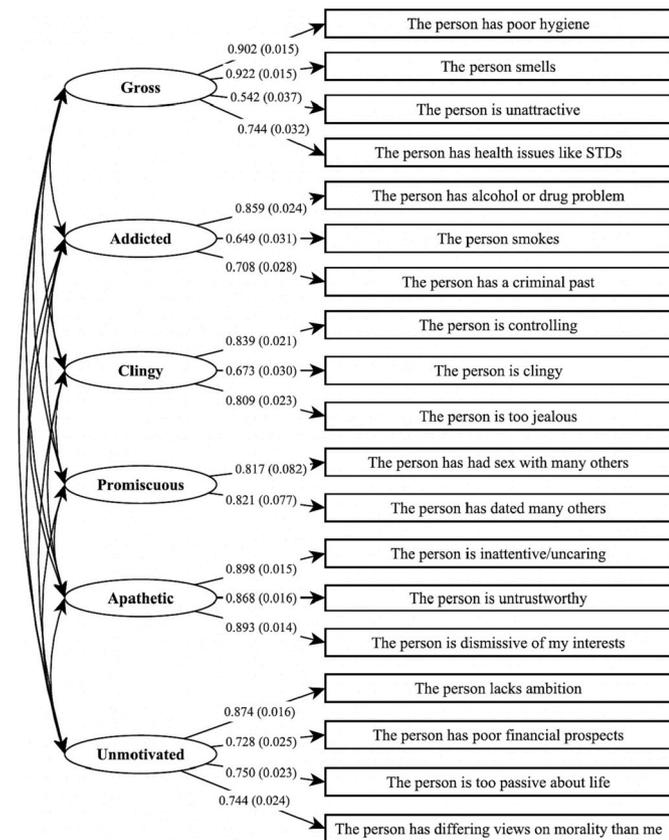


Fig. 1. Standardized factor loadings (and standard errors) of the 19 items loading on the six latent factors in the pooled contexts. All loadings are significant at $p < .001$.

Table 1

Model fit indices based on the six-factor model ($N = 285$).

Data	N^a	χ^2	df	RMSEA (90% CI)	CFI	TLI	SRMR
Pooled data overall	570	401.29	137	0.06 (0.05, 0.07)	0.95	0.94	0.04
Women (pooled contexts) ^b	340	268.39	138	0.05 (0.04, 0.06)	0.96	0.95	0.05
Men (pooled contexts)	230	290.57	137	0.07 (0.06, 0.08)	0.93	0.92	0.05
Long-term (pooled sex) ^b	285	333.44	138	0.07 (0.06, 0.08)	0.93	0.91	0.06
Short-term (pooled sex)	285	220.28	137	0.05 (0.04, 0.06)	0.97	0.97	0.05

^a The total number of cases was higher in the pooled analyses than the total number of participants.

^b The residual variance of "The person has had sex with many others" had to be fixed at zero because of negative, but non-significant residual variance.

11.08, $p < .001, d = 1.23$), and Unmotivated ($t[114] = 8.91, p < .001, d = 0.98$) as greater dealbreakers in the long-term, compared to short-term, context. Women shared these ratings (Addicted, $t[169] = 7.14, p < .001, d = 0.40$; Clingy, $t[169] = 2.81, p = .006, d = 0.19$; Apathetic, $t[169] = 8.58, p < .001, d = 0.16$; Unmotivated, $t[169] = 9.85, p < .001, d = 0.79$), with the exception of Promiscuity, which women did not rate differently between mating contexts. Additionally, women rated Gross ($t[169] = -4.46, p < .001, d = -0.24$) as greater dealbreakers in the short-term, compared to the long-term context.

Next, we ran correlations for the six dealbreaker factors, mate value, and sociosexuality and participant's age (Tables 5 and 6). We did this for the overall sample, within men and women, and within the different mating contexts. Among women only, age was correlated with the long-term Gross ($r[170] = 0.16, p = .04$) and Unmotivated ($r[170] = 0.18, p = .02$) factors, but none of the same dealbreakers in the short-term context.

In terms of sociosexuality and mate value, we found positive relationships between the six dealbreaker factors among men and women, with the exception that, among men only, no relationship was found between Gross and Promiscuous or Unmotivated. Following this, we ran Steiger's z comparisons for correlations between mate value or sociosexuality and the six factors between mating contexts. The relationship between men's responses to Addiction, Promiscuity, Apathy, and Unmotivated dealbreakers and sociosexuality were stronger (negatively) in the short-term compared to the long-term context. The relationships between sociosexuality and their responses to Clingy were stronger (positively) in the long-term than in the short-term context. For women, only the relationship between sociosexuality and Unmotivated was different between contexts, with responses to being Unmotivated having a stronger (positive) relationship with sociosexuality in the short-term compared to the long-term. Men's responses to Gross were more strongly correlated (positively) to mate value in the long-term and Apathetic to mate value in the short-term. The relationship between mate value and women's responses to Apathetic or Unmotivated was stronger in the long-term context.

Lastly, we performed Fisher's z comparisons between the sexes for correlations between mate value or sociosexuality and the six factors between mating contexts (Table 5). Women's, compared to men's, responses to Gross more strongly correlated (positively) with mate value in the short-term context and with their responses to Clingy and Apathetic more strongly correlated (positively) with mate value in the long-term context. Sociosexuality, for men compared to women, was more strongly correlated (positively) with responses to Clingy in the long-term context and (negatively) with Unmotivated in the short-term context. There was no systematic moderation by participant's sex ($Mz = -0.06, Range = 5.44$).

Table 2
Measurement invariance tested between sex and contexts.

Model	χ^2 (df)	CFI	TLI	RMSEA	90 % CI	$\Delta\chi^2$ (Δdf)	ΔCFI	ΔTLI	$\Delta RMSEA$
<i>Men vs women</i>									
Configural	557.215 (274)	0.951	0.938	0.060	0.053–0.067				
Metric (loadings)	592.435 (287)	0.947	0.937	0.061	0.054–0.068	35.220 (13)	–0.004	–0.001	0.001
Scalar (intercepts)	639.956 (300)	0.941	0.932	0.063	0.056–0.070	47.521 (13)	–0.006	–0.005	0.002
<i>Long- vs short-term context</i>									
Configural	545.921 (274)	0.951	0.939	0.059	0.052–0.066				
Metric (loadings)	602.583 (287)	0.944	0.933	0.062	0.055–0.069	56.662 (13)	–0.007	–0.006	0.003
Scalar (intercepts)	654.760 (300)	0.937	0.928	0.064	0.058–0.071	52.177 (13)	–0.007	–0.005	0.002

Table 3
Between- and within-subjects effects and sex differences in the ratings of dealbreakers in the context of short-term and long-term relationships.

	Mean (SD)			t-Test	Hedges' g
	Overall	Men	Women		
<i>Short-term desirability</i>					
Gross	4.04 (1.08)	3.92 (1.07)	4.12 (1.08)	1.54	0.19
Addicted	2.98 (1.25)	2.57 (1.24)	3.26 (1.17)	4.80**	0.58
Clingy	3.24 (1.20)	2.79 (1.14)	3.55 (1.15)	5.46**	0.66
Promiscuous	2.61 (1.23)	2.40 (1.30)	2.77 (1.16)	2.52*	0.30
Apathetic	3.17 (1.30)	2.73 (1.30)	3.47 (1.21)	4.93**	0.60
Unmotivated	2.52 (1.12)	2.12 (1.09)	2.79 (1.06)	5.16**	0.62
F	1.42.32**	62.40**	91.58**		
η_p^2	0.34	0.35	0.35		
<i>Long-term desirability</i>					
Gross	3.89 (0.97)	3.90 (0.95)	3.87 (0.98)	–0.26	–0.03
Addicted	3.60 (1.12)	3.42 (1.05)	3.72 (1.15)	2.22*	0.27
Clingy	3.65 (0.99)	3.49 (0.90)	3.75 (0.98)	2.23*	0.27
Promiscuous	2.69 (1.07)	2.70 (1.15)	2.68 (1.02)	–0.17	–0.02
Apathetic	4.16 (1.00)	4.12 (0.94)	4.19 (1.04)	0.69	0.08
Unmotivated	3.35 (0.89)	3.03 (0.74)	3.57 (0.92)	5.27**	0.64
F	118.83**	59.02**	64.17**		
η_p^2	0.30	0.34	0.28		

Note. Hedge's g is for effect sizes correcting for unequal sample sizes in the sexes, the interpretation of which is the same as Cohen's d.

* $p < .05$.

** $p < .01$.

4. Discussion

Researchers interested in mate choice and mate preferences tend to focus on what people want. However, what people want may only be one part of mate choice, with people also eliminating potential partners

possessing dealbreakers (Jonason et al., 2015, 2020). Prior research on the data analyzed here has either treated dealbreakers as a single factor or thematically organized dealbreakers manually. We re-analyzed this previously published data on dealbreakers to determine their factor structure, sex differences, differences between mating contexts, and correlations with age, mate value, sociosexuality overall, and in the sexes.

Our re-analysis yielded six dealbreaker factors (i.e., Gross, Addicted, Clingy, Promiscuous, Apathetic, and Unmotivated) with excellent fit and invariant measurement across sex and relationship context. Consistent with existing research in other cultures (e.g., Apostolou & Eleftheriou, 2022; Csajbók & Berkics, 2022) the greatest dealbreakers were apathy (i.e., lacking parenting ability) and being gross (i.e., posing pathogen threats) in the long-term and being gross and clingy (i.e., inhibiting a partner's nonparental reproductive efforts) in the short-term. Unlike research conducted with Cyprian (Apostolou & Eleftheriou, 2022) and Hungarian (Csajbók & Berkics, 2022) samples, our analysis revealed traits related to pathogen threats (e.g., poor hygiene) and being unattractive to load as a single factor, likely connected by the information such traits reveal about a potential mate's health. This may indicate a culture-specific response to traits indicating poor health such that people in the United States do not distinguish between indicators of poor health related to genetic quality and those related to pathogen threats when evaluating potential mates. Additionally, as predicted (Csajbók & Berkics, 2017, 2022; Li & Kenrick, 2006), women had more dealbreakers in practically all factors than men had.

As expected, age was in a weak and positive relationship with the dealbreakers, but only in women and not in men. Also as expected, openness to uncommitted sex was associated with lower ratings of the dealbreakers, an effect that was more pronounced in short-term than long-term contexts (except for Clingy) and mate value was positively correlated with dealbreakers in both mating contexts. Overall, our findings fit well in the emerging literature on dealbreakers (e.g., Jonason

Table 4
Paired-samples t-tests between the six dealbreaker factors in men (below diagonal) and women (above diagonal) and in both mating contexts.

	1	2	3	4	5	6
<i>Short-term mating context</i>						
1. Gross		9.80**	6.95**	12.10**	7.50**	12.58**
2. Addicted	10.43**		–3.30**	4.82**	–2.36*	5.79**
3. Clingy	9.70**	–1.93		7.31**	1.03	10.02**
4. Promiscuous	10.59**	1.50	3.20*		–6.80**	–0.16
5. Apathetic	8.64**	–1.53	0.66	–2.82*		10.13**
6. Unmotivated	13.10**	4.68**	7.30**	3.11*	7.22**	
<i>Long-term mating context</i>						
1. Gross		2.26*	1.90	12.56**	–6.96**	5.80**
2. Addicted	4.94**		–0.51	10.71**	–6.99**	2.07*
3. Clingy	4.70**	–0.66		10.95**	–7.14**	3.20**
4. Promiscuous	10.74**	6.51**	6.59**		–15.59**	–9.58**
5. Apathetic	–2.85*	–7.77**	–7.88**	–12.36**		11.30**
6. Unmotivated	12.40**	4.57**	5.95**	–3.58**	14.62**	

* $p < .05$.

** $p < .01$.

Table 5
Correlations between the six dealbreaker factors and self-reported mate value (MV) and sociosexuality (SOI) overall and in men and women.

	SOI			MV		
	STM	LTM	Steiger's z	STM	LTM	Steiger's z
Gross	-0.04	0.04	-1.66	0.15*	0.22*	-1.53
Men	0.06	0.11	-0.91	0.01	0.19*	-3.30**
Women	-0.06	-0.04	-0.50	0.22**	0.25**	-0.77
Fisher's z	0.98	1.23		-1.75*	-0.52	
Addicted	-0.35**	-0.14*	-4.85**	0.15*	0.18**	-0.67
Men	-0.33**	-0.02	-6.56**	0.05	0.08	-0.61
Women	-0.22**	-0.19*	-0.73	0.14	0.21**	-1.69
Fisher's z	-0.98	1.41		-0.74	-1.09	
Clingy	-0.22**	0.04	-4.53**	0.19**	0.16**	0.52
Men	-0.18	0.22*	-6.05**	0.08	0.01	1.03
Women	-0.08	<0.01	-1.52	0.20*	0.23**	-0.59
Fisher's z	-0.83	1.83*		1.00	-1.84*	
Promiscuous	-0.27**	-0.17**	-1.99*	0.14*	0.18**	-0.78
Men	-0.21*	-0.11	-2.24*	0.18	0.21*	-0.68
Women	-0.27**	-0.28**	0.19	0.06	0.16*	-1.81
Fisher's z	0.52	1.45		1.00	0.42	
Apathetic	-0.27**	-0.02	-4.07**	20*	0.15*	0.81
Men	-0.26**	0.06	-4.72**	0.22*	0.02	2.93**
Women	-0.12	-0.08	-0.71	0.12	0.23**	-1.97*
Fisher's z	-1.19	1.15		0.84	-1.75*	
Unmotivated	-0.30**	-0.15*	-2.52*	0.21**	0.32**	-1.87
Men	-0.30**	-0.03	-4.04**	0.18	0.24*	-0.90
Women	0.13	-0.06	3.09**	0.16*	0.32**	-2.70**
Fisher's z	-3.61**	0.25		0.17	0.71	

Note. Fisher's z (psychometrica.de) compares independent correlations whereas Steiger's z (quantpsy.org) compares dependent correlations.

* $p < .05$.

** $p < .01$.

Table 6
Correlations between the six dealbreaker factors in men (below diagonal) and women (above diagonal).

	1	2	3	4	5	6
<i>Short-term mating context</i>						
1. Gross		0.50**	0.54**	0.17*	0.52**	0.29**
2. Addicted	0.29**		0.55**	0.35**	0.55**	0.54**
3. Clingy	0.37**	0.48**		0.29**	0.67**	0.60**
4. Promiscuous	0.17	0.55**	0.44**		0.36**	0.46**
5. Apathetic	0.24**	0.62**	0.68**	0.54**		0.71**
6. Unmotivated	0.07	0.62**	0.61**	0.68**	0.73**	
<i>Long-term mating context</i>						
1. Gross		0.65**	0.68**	0.23**	0.83**	0.74**
2. Addicted	0.45**		0.59**	0.33**	0.68**	0.62**
3. Clingy	0.48**	0.27**		0.23**	0.71**	0.71**
4. Promiscuous	0.36**	0.43**	0.24**		0.25**	0.23**
5. Apathetic	0.65**	0.54**	0.57**	0.33**		0.74**
6. Unmotivated	0.62**	0.52**	0.50**	0.55**	0.57**	

* $p < .05$.

** $p < .01$.

et al., 2015, 2020) and with research on positive mate preferences (Li et al., 2002; Thomas et al., 2020).

The role dealbreakers play in mate choice might be understood using Error Management Theory (Haselton & Buss, 2000), which suggests people weigh potentially costly relationship mistakes as more important than potential beneficial relationship gains. Consistent with this, people are more averse to dealbreakers than lured by dealmakers (Jonason et al., 2015, 2020). However, people may also be more interested in knowing a potential partner's dealmakers (i.e., their upsides) than dealbreakers (i.e., their downsides), suggesting the two compliment rather than compete with each other (Csajbók & Berkics, 2022). Expectedly, widening the coverage of the potential partner's characteristics to measure both desirable and undesirable traits combined will better inform, and perhaps fundamentally change, research on mate choice.

5. Limitations & conclusions

Our findings are limited by the self-report nature of the data because it is possible participants differed in their interpretation of the dealbreaker items or were unable to accurately assess the magnitude to which the dealbreaker items would truly be dealbreakers in a real-life scenario. Additionally, our sample consisted of American college students; thus, replication in new, larger, and more diverse samples is needed to determine the replicability and generalizability of our factors. Nonetheless, we showed that mating dealbreakers can be measured as correlated factors – in accordance with other studies (Apostolou & Eleftheriou, 2022; Csajbók & Berkics, 2022). We argue that mate choice research will benefit from incorporating undesirable characteristics into its measurement models.

From an evolutionary point of view, our dealbreakers confirm long-standing theories on what is important in a potential partner. People want mates who are fertile (i.e., not smelling bad, not having STDs, being attractive) and good parents (i.e., being trustworthy, ambitious, attentive, caring) of our offspring (Trivers, 1972). Of course, certain characteristics are more problematic following a short-term (e.g., clingy, jealous, controlling) than a long-term (e.g., unfaithful) mating strategy (Buss & Schmitt, 1993). There are, on the other hand, more general threats too in the emerging dealbreakers, such as posing direct physical threat as a companion (e.g., having a criminal past, substance abuse problem) or posing pathogen threats (e.g., poor hygiene). Understandably, these threats are taken more seriously by women than by men. We recommend incorporating the upsides and downsides of mate preferences in future research to reveal more nuance and new truths to the process of mate choice.

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CRedit authorship contribution statement

Zsófia Csajbók: Conceptualization, Formal analysis, Writing – original draft. **Kaitlyn P. White:** Formal analysis, Writing – original draft. **Peter K. Jonason:** Conceptualization, Methodology, Investigation, Writing – review & editing.

Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

Data accessibility statement

The data that support the findings of this study are available on the Open Science Framework (https://osf.io/yzhxc/?view_only=e04b44e5461a4038bab93c0a3fc7d0b0).

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2022.112048>.

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