How People Become Attractive to Prospective Mates: Strategies of Self-Promotion in the Greek Cultural Context

Menelaos Apostolou¹, Yan Wang² and Athina Gavriilidou³

Abstract
An important aspect of human mating is to appeal to prospective mates. Accordingly, the current research attempted to identify the strategies that people use in order to become more attractive as prospective intimate partners. More specifically, using open-ended questionnaires in a sample of 326 Greek-speaking participants, we identified 87 acts that people performed in order to become more attractive as mates. By using quantitative research methods in a sample of 2,197 Greek-speaking participants, we classified these acts into 16 different strategies. We found that, enhancing one’s looks and becoming more pleasant, were among the most preferred strategies. Women were more likely than men to adopt strategies that involved looks, while men were more likely than women to adopt strategies that involved resource acquisition capacity. Moreover, age effects were found for most strategies. The identified strategies were classified into two broader domains, one aiming to develop and demonstrate fitness-increasing qualities, and the other to deceive about fitness-impairing traits.

Keywords
self-promotion strategies, mating strategies, mating, attraction

Received 1 July 2021; Revised received 20 August 2021; accepted 24 August 2021

Introduction
Mating is central to human behavior (Darwin, 1871; Buss, 2016; Miller, 2000), and for good evolutionary reasons, as those who were not interested in mating have not been our ancestors (Buss, 2016). In order to be successful in mating, people need to be able to attract mates, and to do so, they need to appeal to prospective intimate partners. Accordingly, the current research aimed to identify and study the strategies that people employ in order to become more attractive as prospective mates.

Mating Strategies for Becoming More Attractive to Prospective Mates
Mating is strategic in the sense that people employ different mating strategies, which constitute integrated sets of adaptations that organize and guide individuals’ reproductive effort (Gangestad & Simpson, 2000). The repertoire of mating strategies includes self-promotion strategies that enable people to become more attractive to prospective mates (Buss, 1988; Schmitt & Buss, 1996). More specifically, people who succeed in becoming attractive as intimate partners, would have a greater success in mating, and would thus, have a reproductive advantage over those who are less successful in doing so. This difference would translate into selection pressures shaping strategies that would enable people to compete successfully in the mating market by turning themselves more attractive as mates. We argue that there would be two main such strategies, namely demonstrating fitness-increasing traits (Buss, 1988), and hiding fitness-impairing traits.

More specifically, prospective mates vary considerably in their mate value. That is to say, some mates have traits which could increase substantially mate-seekers’ chances to have their genetic material represented in future generations (i.e., fitness), while others lack such traits. It follows that,
gaining access to mates of good mate value is of high importance to one’s fitness, which would translate in people having evolved to be selective over whom they mate with (Symons, 1979). To put it differently, people who mate indiscriminately would allocate their mating effort equally toward attracting high and low mate value mates, and thus, have a disadvantage over people who are choosy and allocate their mating effort toward mates of high mate value.

Overall, people are selective in mate choice, with mate preferences being mechanisms that have evolved to enable individuals to divert their mating effort toward individuals with fitness-increasing qualities (Buss, 1988; Buss and Schmitt, 2019). The workings of these preferences translate into people being attracted to ones who have fitness-increasing traits, and to avoid those who lack them. It follows that, if people are to become more attractive as mates, they would need to demonstrate that they are endowed with fitness-increasing traits, and to hide or deceive about their fitness-impairing traits. By identifying the main fitness-increasing traits that people look for in a mate, we can make more specific predictions about the strategies that people use in order to become more attractive as mates.

**Fitness-Increasing Traits**

Personality constitutes a key predictor for most outcomes in life, including mating (Buss & Hawley, 2010). In more detail, people who score high in kindness are more likely to be supportive and less likely to abuse their partners and children than low scorers (Matthews et al., 2015). In effect, people consistently rate kindness and understanding high in their hierarchy of mate preferences (Buss & Barnes, 1986; Buss et al., 2001; Thomas et al., 2020). Similarly, people who score high in conscientiousness, are less likely to cheat on their partners, and more likely to be good providers for their family (Mark et al., 2011; Whisman et al., 2007). Accordingly, traits such as reliable and dependable personality, are also highly valued in a prospective partner (Buss & Barnes, 1986; Buss et al., 2001; Walter, et al., 2020). Furthermore, character traits, including being pleasant and fun to be with, improve communicate and cooperation between partners, and increase the longevity of a relationship (Buss, 2016; Matthews et al., 2015). In effect, traits such as being pleasant, having exciting personality and good sense of humor are preferred in a prospective partner (Buss et al., 2001; Thomas et al., 2020).

Intimate partners provide resources to their mates and their children, which are key to their survival and reproductive effort, especially in the ancestral pre-industrial context, where there were no social protection and support systems. It follows that, the resource provision capacity of a partner, is key to one’s fitness (Buss, 2016; Buss & Schmitt, 2019). Accordingly, people value in a prospective partner traits which indicate high level of such capacity, including being hardworking, reliable, intelligent, educated, and wealthy (Buss & Barnes, 1986; Buss et al., 2001; Thomas et al., 2020; Walter et al., 2020).

People increase their fitness by gaining access to mates and having children. Therefore, traits in a partner which indicate high fertility, such as young age and good health, are fitness-increasing in prospective partners (Buss, 2016; Buss & Schmitt, 2019). Furthermore, due to the nature of sexual reproduction, in order to procreate, individuals have to share their genetic material with the genetic material of their partners. Consequently, the genetic quality of a prospective partner is of high fitness relevance, as securing a partner of good genetic quality means securing good genes for one’s children, who have in effect better chances of survival and reproduction. Age, health status, and genetic quality are reflected on looks (Davis & Arnocky, 2020). Therefore, the mind has evolved to interpret signs of young age, good health, and good genetic quality as being beautiful, a trait that is highly valued in a partner (Buss & Barnes, 1986; Li et al., 2002, 2011; Thomas et al., 2020; Walter et al., 2020).

Similarity between partners is an important predictor of a relationship’s longevity (Duck, 1994). In particular, if partners have different personalities, interests, and goals, keeping an intimate relationship would be difficult, as frequent disagreements and fights would arise. In effect, people prefer partners who are similar to them across different dimensions (Buss & Barnes, 1986; Luo, 2017).

Overall, the current literature indicates that people desire in a partner fitness-increasing traits, including good character (kindness, understanding, dependability, pleasantness), resource provision capacity (hardworking, intelligent, educated, reliable, wealthy), good reproductive capacity (young, healthy, good genetic quality), and similarity. Accordingly, people who manage to develop and/or demonstrate that they have these traits and hide that they do not, would become more attractive as partners.

**Sex Differences**

The fitness-increasing potential of certain traits is contingent on one’s sex; that is to say, some traits in a prospective partner can be more beneficial for women than for men, while others can be more beneficial for men than for women (Buss, 1989). More specifically, pregnancy turns women less mobile, decreasing in effect, her capacity to find food for herself and her baby, increasing the importance of having a partner who is a reliable provider of resources. Furthermore, men are more interested than women in pursuing short-term mating (Buss, 2016). Accordingly, as resource provision capacity is of limited importance in a casual mate, such capacity is more important in a partner for women than for men. This difference is reflected in their preferences, with women ascribing more importance to traits associated with resource provision capacity, including social status, wealth, and education (Buss, 1989; Buss et al., 2001; Li et al., 2011; Thomas et al., 2020). On this basis, it is predicted that men would be more likely than women to use strategies that involve improving and demonstrating their resource acquisition capacity (Schmitt & Buss, 1996).

Furthermore, the reproductive capacity of women is more strongly correlated with their age, compared to that of men.
who do not experience menopause. Accordingly, young age is more fitness-increasing in a partner for men than for women (Buss, 2016). Furthermore, as discussed above, men are more likely to engage in casual mating than women, and in casual partners, fertility and good genetic quality are highly valued traits (Confer et al., 2010). In effect, fertility status and good genetic quality are potentially more beneficial for men than for women. Thus, men ascribe more importance than women to a mate’s good looks, which summarize the information about these traits (Bech-Sørensen & Pollet, 2016; Buss, 1989; Buss et al., 2001; Li et al., 2011; Lippa, 2007; Thomas et al., 2020; Walter et al., 2020). On this basis, it is predicted that women would be more likely than men to use strategies that involve enhancing their looks (Schmitt & Buss, 1996).

Current Literature

The existing literature provides strong support for the hypothesis that, in order to become more attractive as mates, people attempt to enhance their looks (see Davis and Arnocky, 2020 for a comprehensive review). In particular, across cultures, people try to improve their body’s appearance through losing weight, doing physical exercise and gaining muscle mass (McCabe et al., 2009; Ricciardelli & McCabe, 2003; Shomaker & Furman, 2010). Women employ make-up and other cosmetics in order to enhance their face (Mafra et al., 2020), while men attempt to become more muscular (Frederick et al., 2007), and for this purpose they go as far as using risky means such as steroids (Gosse & Arnocky, 2012; Vartanian et al., 2012). Both sexes undergo invasive cosmetic procedures in order to improve their physical attractiveness (Calogero et al., 2010). Women however, allocate more effort in enhancing their looks. For instance, women account for more than 86% of the total cosmetic procedures performed worldwide, while women in Western societies spend almost 10 times more on cosmetic products per year than men (Arnocky, 2016).

There has been research specifically designed to identify the strategies that people use for becoming more attractive to prospective mates. In the founding study in the area, Buss (1988) asked 113 college students in the United States to indicate the acts people use to make themselves more attractive to members of the opposite sex. He identified 101 acts, which were conceptually classified into 23 superordinate strategies (in the original study the term “tactic” was used, but in order to be consistent with the proposed theoretical framework, we employ here the term “strategy”). In a later study, Schmitt and Buss (1996) asked 40 American college students to list acts people use in order to attract short- and long-term mates. Subsequently, they added these acts to the acts identified by Buss (1988), producing a list of 130 distinct acts of attracting mating partners. In turn, they classified these acts conceptually in 31 superordinate strategies of self-promotion.

Consistent with our original predictions, strategies that demonstrated desirable character traits emerged, including “Act Honest,” “Act Kind,” “Act Sensitive,” “Act Solicitous,” and “Display Surgency.” Similarly, a strategy that involved improving looks emerged, namely the “Enhance Physical Attractiveness.” Finally, the strategies that demonstrated good resources provision capacity emerged, including “Act Intelligent,” “Give Resources Immediately,” and “Show Resource Potential.” However, there were no strategies identified that demonstrated similarity. Next, Schmitt and Buss (1996) asked American college students to rate the effectiveness of each strategy in attracting mates. Participants rated strategies associated with resource provision capacity as more effective on women, and strategies associated with improving looks as more effective on men.

In a more recent study, Bendixen and Kennair (2015) attempted to replicate previous findings in the Norwegian cultural context. More specifically, they asked a sample of 270 Norwegian undergraduate students to rate the effectiveness of 10 of the strategies Schmitt and Buss’ (1996) have identified. Consistent with previous results, they found that the enhancing physical attractiveness strategy was judged to be more effective on men than on women. Nevertheless, as opposed to previous findings, they did not find participants judging resource provision capacity strategies to be more effective on women than on men.

The Present Study

The original studies by Buss (1988) and Schmitt and Buss (1996) covered considerable distance in understanding the strategies that people employ in becoming attractive to prospective partners. Nevertheless, the complexity of the phenomenon, along with the limitations of these studies, mandate further research in the area. More specifically, previous studies derived strategies by classify self-promotion acts conceptually, which is subjective, as categories are formed on the basis on the researchers’ perceptions and expectations, which may not necessarily reflect the actual factor structure. A better way is to employ dimension reduction techniques, such as principal components analysis that is not based on researchers’ perceptions and expectations, but on identifying patterns in the data, and can more objectively identify the factor structure in question. Similarly, there was no attempt to classify these strategies into broader domains, although there are reasons to believe that this is the case (see above). Accordingly, the factor and domain structure of the self-promotion strategies remains currently unknown.

Furthermore, the act nomination took place more than 20 years ago, and given that several things have changed since then, may be several self-promotion acts, which were not captured by the original studies. For instance, in Greece 20 years ago, very few people had access to the internet, there were no smart phones and tablets, and there were no social media or dating applications. At the time of writing, almost all households have internet access, most people have smartphones and they use social media, while there is an increasing use of dating applications. These technological developments would lead many people to adjust their self-promotion strategies. For instance, they may manipulate their social media profiles in order to appear better looking and
more successful than they really are. Accordingly, a more up to date research is necessary in order to have a better understanding of the strategies that people currently use in order to become attractive.

Moreover, the results were based on undergraduate students, so they may not be inclusive of what the general population would use. Furthermore, the original studies examined the perceived effectiveness of these strategies, and not the willingness of people to use them. In addition, these studies were based on the American culture, and with one exception (Bendixen & Kennair, 2015), to the best of our knowledge, there has not been any attempts to examine such strategies in different cultural contexts.

The current study aimed to address the limitations of the existing literature, and advance our understanding of self-promotion strategies, predominantly by identifying the factor and domain structure of these strategies, and by examining some of their contingencies. More specifically, Study 1 employed qualitative research methods in a Greek-speaking sample in order to identify the different acts that people perform in order to become more attractive as mates. Study 2 employed quantitative research methods in a large and diverse Greek-speaking sample, and applied principal components analysis in order to classify these acts into broader factors and domains. It estimated further which acts were more likely to be used, and estimated sex differences in the use of each identified strategy. Study 2 aimed further to examine age, marital status and sexual orientation effects on the adoption of different acts, without making however, directional hypotheses.

**Study 1**

**Methods**

**Participants.** The study was designed and executed in a private university in the Republic of Cyprus, and run online. Ethics approval was obtained by the University’s ethics committee. Participants were recruited by promoting the research in social media, including, Facebook and Instagram, to participants residing in Greece and in the Applied principal components of Cyprus. The link of the study was also forwarded to students and colleagues, who were asked to fill the survey and forward it further. In order to take part, individuals had to be at least 18 years old. No reimbursement was given for participating in the study.

Overall, 326 (160 women and 166 men) Greek speaking individuals took part. The mean age of women was 29.8 (SD = 11.8) and the mean age of men was 32.2 (SD = 11.8). Moreover, 53.4% of the participants were single, 28.8% were in a relationship, 15.0% were married, and 2.8% indicated their marital status as “other.” In addition, 81.9% of the participants indicated that they were exclusively heterosexuals, 10.4% heterosexuals with same-sex attractions, 3.3% bisexuals, and 4.6% homosexuals.

**Materials.** The survey had three parts. In the first part, participants were asked to: “Write down some things you know your friends and acquaintances have done in order to become more attractive to prospective mates.” In the second part, they were asked to: “Write down some things you may do in the future in order to become more attractive to prospective mates.” In the third part, demographic information was collected, including sex, age, marital status and sexual orientation.

**Data Analysis and Results**

The data were analyzed using a procedure employed in previous research (Apostolou & Wang, 2020). In more detail, two independent graduate students (a man and a woman) were employed to categorize responses to supracoordinate categories. Similar responses were added to a supracoordinate category, and when a dissimilar response arose, a new supracoordinate category was created. Acts with unclear or vague wording were eliminated. After processing about 30% of the responses, the data for each coder were compared. Although the coders agreed to most of the supracoordinate categories, for the cases where there was not complete agreement, one of the authors was consulted, and eventually agreement was reached for 100% of the supracoordinate categories. Subsequently, coders proceeded to code the remaining responses. In total, 87 acts that people perform in order to become more attractive to prospective mates have been identified and are presented in Table 1.
### Table 1. The Extracted Factors and Domains in Study 2.

| Domains                                      | Factor loadings | Cronbach’s α |
|----------------------------------------------|-----------------|--------------|
| **Develop and demonstrate desirable traits** |                 |              |
| Become more pleasant                        | 0.837           | 0.88         |
| I would be more polite                      | 0.614           |              |
| I would smile more                          | 0.574           |              |
| I would pay attention to the vocabulary I use and the way I speak in general | 0.487        |              |
| I would use more humor                       | 0.442           |              |
| I would try to show dynamism and confidence  | 0.387           |              |
| **Self-improvement**                        | 0.791           | 0.71         |
| I would make self-improvement efforts        | 0.641           |              |
| I would try to improve my character          | 0.586           |              |
| I would do psychotherapy to improve my character | 0.544      |              |
| I would try to increase my self-confidence   | 0.476           |              |
| I would read books on flirting and relationships | 0.386      |              |
| **Increase intellectual capacity**           | 0.786           | 0.77         |
| I would read more books                      | 0.708           |              |
| I would show interest in art / music / literature | 0.599     |              |
| I would do volunteer work                    | 0.552           |              |
| I would try to gain more and varied knowledge | 0.476        |              |
| I would improve my education (e.g., by getting a university degree) | 0.443    |              |
| **Enhance looks**                            | 0.702           | 0.85         |
| I would take care of my skin                 | 0.769           |              |
| I would take care of my feet / hands         | 0.766           |              |
| I would take care of my hair                 | 0.644           |              |
| I would use perfumes                         | 0.640           |              |
| I would try to have a fresh breath           | 0.615           |              |
| I would have waxing/laser treatment (hair removal) | 0.561  |              |
| I would wear clothes that flatter me         | 0.504           |              |
| I would take care of my cleanliness          | 0.448           |              |
| I would buy new clothes                      | 0.388           |              |
| **Do more risky, physically demanding and unusual things** | 0.667 | 0.73         |
| I would do things that are risky (e.g., bungee jumping, a dangerous sport, etc.) | 0.583 |              |
| I would do more sports                       | 0.487           |              |
| I would do more physical exercise            | 0.450           |              |
| I would acquire more hobbies                 | 0.399           |              |
| I would do unusual things                    | 0.307           |              |
| **Show off abilities and talents**           | 0.647           | 0.85         |
| I would try to show off my abilities and skills | −0.719        |              |
| I would try to show off my knowledge         | −0.696          |              |
| I would try to show off my talents          | −0.694          |              |
| I would talk more about my achievements      | −0.607          |              |
| I would tell stories about things I have done | −0.530       |              |
| I would emphasize my strengths               | −0.388          |              |
| I would try to do something impressive       | −0.362          |              |
| I would try to show someone I am interested in that I am better than other men/women | −0.323 |              |
| I would try to show that I have long-term goals and ambitions in my life | −0.308 |              |
| **Develop similar interests**                | 0.626           | 0.83         |
| I would try to find out what someone who I am interested in likes so that we can have common interests | 0.701 |              |
| I would adopt the hobbies and habits of someone who I am attracted to | 0.683 |              |
| I would learn about the subject matter of the work of someone I am interested in, so that I can actively participate in discussions with him/her | 0.613 |              |
| I would show interest in things that interest someone who I am attracted to | 0.605 |              |
| I would seem to agree with the views of someone I am attracted to | 0.457 |              |
| I would become more tolerant of things that bother me | 0.409 |              |
| I would pretend that I am interested in things that interest someone who I am attracted to | 0.402 |              |
| I would change what music I listen to        | 0.395           |              |
| I would laugh at the jokes of someone I care about | 0.330 |              |

(continued)
Table 1. Continued.

| Domains                          | Factor loadings | Cronbach’s α |
|----------------------------------|-----------------|--------------|
| **Lose weight**                  |                 |              |
| I would lose weight              | 0.577           | 0.83         |
| I would diet                     | 0.867           |              |
| I would wear clothes that make me look slimmer | 0.571     |              |
| I would make changes to my appearance | 0.393   |              |
| I would improve my appearance    | 0.336           |              |
| I would change my hairstyle      | 0.314           |              |
| **Increase social status**       |                 |              |
| I would try to find a job with high social status | 0.630     |              |
| I would try to advance in my career | 0.602     |              |
| I would try to increase my income | 0.573     |              |
| I would try to hang out with people who have high social status | 0.438     |              |
| I would emphasize my social status | 0.413     |              |
| I would try to be financially independent | 0.345     |              |
| **Spend money on someone I am interested in** |           |              |
| I would pick up the bill if I went out with someone I was interested in | 0.418     | 0.50         |
| I would buy gifts for someone I am interested in | 0.720     |              |
| **Deceive about undesirable traits** |                 |              |
| Keep undesirable traits hidden   | 0.664           | 0.77         |
| I would keep a psychological problem hidden | 0.861     |              |
| I would keep something bad from my past hidden | 0.805     |              |
| I would keep a health problem hidden | 0.750     |              |
| I would hide things about myself that other may not have liked | 0.676 |              |
| **Showing off and exaggerating wealth** |                 |              |
| I would exaggerate my wealth     | 0.627           | 0.87         |
| I would try to show off my wealth | 0.802          |              |
| I would tell others that I have achieved more than I really have | 0.705 |              |
| I would present my financial situation as better than the real one | 0.674 |              |
| I would exaggerate my abilities  | 0.674           |              |
| I would buy a more expensive cell phone | 0.521     |              |
| I would buy a more expensive car/motorcycle | 0.436     |              |
| I would wear expensive clothes   | 0.432           |              |
| I would degrade other men/women in front of the person I am interested in | 0.402 |              |
| **Not eat in front of someone I am interested in** |           |              |
| I would not eat in front of someone I am interested in | 0.600     | −0.658       |
| **Drastic appearance changes**   |                 |              |
| I would have liposuction         | 0.587           | 0.71         |
| I would have a plastic surgery   | 0.620           |              |
| I would have a hair transplant   | 0.616           |              |
| I would take various supplements (e.g., anabolic steroids, diet pills) to improve my body | 0.504     |              |
| **Enhance social media profile** |                 |              |
| I would make more posts on social media | 0.805       |              |
| I would post flattering photos of myself on social media | 0.761     |              |
| I would edit my photos on social media to look more handsome | 0.668     |              |
| I would go out to places that are considered cool | 0.344     |              |
| I would try to look more popular | 0.270           |              |
| I would dress more provocatively | 0.262           |              |
| **Piercing and tattoos**         |                 |              |
| Piercing and tattoos             | 0.679           | 0.67         |
| I would get a piercing           | 0.744           |              |
| I would get a tattoo             | 0.690           |              |

For the “I would pick up the bill if I went out with someone I was interested in” act the sign was negative, while for the “I would buy gifts for someone I am interested in” act was positive.

For the “I would do things that are risky (e.g., bungee jumping, a dangerous sport, etc.)” and the “I would do unusual things” acts the sign was negative, while for the “I would do more sports” act was positive.
Study 1 using a five-point Likert scale: 1—Strongly disagree, 5—Strongly agree. The order of presentation of the different acts was randomized across participants. In the second part, demographic information was collected, including sex, age, marital status and sexual orientation.

Data analysis. In order to classify the different acts to broader categories, we employed principal components analysis using direct oblimin as the rotation method. In order to decide the number of extracted factors, we employed the Kaiser criterion; that is, we retained all the factors with an eigenvalue of at least one. Principal components analysis was performed twice, first on the 87 acts, in order to classify them into broader factors, and second on the extracted factors to classify them into even broader domains.

In order to identify significant effects and interactions, we performed a series of multivariate analysis of covariances. In particular, we entered the acts composing a factor as the dependent variables, and sex, marital status and sexual orientation as categorical variables, and age as a continuous variable. This analysis was repeated for each of the extracted factors. In order to examine significant effects and interactions on the number total number of strategies participants were willing to use, we employed an analysis of covariance (ANCOVA) test. More specifically, we entered the number of strategies participants were willing to use as the dependent variable, sex, marital status and sexual orientation as categorical variables, and age as a continuous variable.

Results

Factor Structure

The KMO statistic indicated that our sample was very good for principal components analysis to be performed (KMO = 0.96). In total, 16 factors have been extracted, and are presented in Table 1. Internal consistency (Cronbach’s alpha) ranged from 0.50 to 0.87 (Table 1). The first strategy to emerge was the “Increase social status,” where participants indicated that they would try to find a job with higher social status, they would attempt to advance in their careers and to increase their income, and they would hang out with people of high social status. The second strategy to emerge was the “Showing off and exaggerating wealth,” where participants would exaggerate their financial situation, and would show off their wealth by buying expensive cars, mobiles and wearing expensive clothes. In the “Increase intellectual capacity” strategy, people would educate themselves by reading books or getting a university degree, and they would show interest in art, music and literature. In the “Lose weight” strategy, people would attempt to improve their appearance, predominantly by losing weight, but also through wearing clothes that would make them look slimmer. In the “Develop similar interests” strategy, participants would attempt to become attractive to prospective mates by adopting their hobbies and habits, and by showing interest in things that interested them. In the “Piercing and tattoos” strategy, in order to become more attractive as partners, people would get a piercing or a tattoo.

Moving on, in the “Enhance looks” strategy, people would improve their looks by taking care of their skin, feet, hands, and hair, by waxing or doing laser treatment to remove body hair, and by wearing clothes that flattered them. In the “Keep undesirable traits hidden” strategy, people would try to become more attractive as mates by hiding undesirable things about themselves, such as psychological and health problems. In the “Spend money on someone I am interested in” strategy, people would pick up the bill, and would buy gifts for prospective partners. In the “Show off abilities and talent” strategy, participants would demonstrate their abilities, skills, knowledge, talents and achievements, and they would also try to do things which were likely to impress others. In the “Self-improvement” strategy, people would make an effort for self-improvement, including doing psychotherapy to improve their character, increasing self-confidence and reading books on intimate relationships.

Moreover, people would attempt to “Become more pleasant,” by being more polite, smiling more, and by using more humor. In the “Enhance social media profile” strategy, people would attempt to appear more attractive in social media, by making more posts, uploading flattering photos, and by editing their pictures to look prettier. Furthermore, in order to become more attractive to prospective mates, participants would “Do more risky, physically demanding and unusual things.” In addition, in the “Not eat in front of someone I am interested in” strategy, participants indicated that they would avoid eating in front of prospective mates. Participants indicated further that they would make “Drastic appearance changes,” by having liposuction, a plastic surgery, a hair transplant and by taking various supplements, such as anabolic steroids to enhance their body.

Second-order principal components analysis classified the 16 strategies into three domains (KMO = 0.92). The “Develop and demonstrate desirable traits” domain in which factors, such as “Self-improvement,” “Enhance looks,” and “Show off abilities and talents” loaded, indicating that people would attempt to develop and demonstrate qualities that prospective partners desired. On the other hand, in the “Deceive about undesirable traits” domain, in which factors including “Keep undesirable traits hidden” and “Showing off and exaggerating wealth” loaded, people would attempt to keep hidden or misinform prospective partners about their shortcomings. In addition, a third domain was extracted, namely the “Piercing and tattoos.” Given that only one factor loaded to it, and that there is no theoretical underpinning for its presence, our interpretation is that it does not constitute a separate domain, but it was classified separately because getting a piercing and a tattoo did not fit to any of the other two domains.

Occurrence

In order to find out which strategies were more likely to be used, we estimated means and standard deviations for each one, and we placed them in a hierarchical order. In addition, for each
strategy, we calculated the percentage of participants who indicated a mean score above “3,” which was the midpoint of our scale, suggesting a willingness to use this strategy. From Table 2, we can see that, at the top of the hierarchy, were the “Enhance looks,” “Become more pleasant,” “Spend money on someone I am interested in,” “Self-improvement,” and “Lose weight.” Based on scores above “3,” we calculated that, 21.6% of the participants were willing to use between one and three strategies, 50.5% between four and eight strategies, and 24.5% nine or more strategies. In addition, 3.5% of the participants did not use any strategy. With respect to domains, the “Develop and demonstrate desirable traits” had the highest mean (M = 3.14, SD = 0.63), with 62.5% of the participants giving a mean score above “3.” The “Deceive about undesirable traits,” had a considerably lower mean (M = 1.96, SD = 0.63), with 7.0% of the participants giving a mean score above “3.”

**Significant Effects**

From Table 2, we can see that there were significant sex differences in several strategies. In order to avoid the problem of alpha inflation arising from multiple comparisons, Bonferroni correction can be applied, setting alpha to 0.003 (0.05/16). Accordingly, the reader may consider any effects above this level not to be significant. As indicated by the effect size, the largest difference was over the “Enhance looks,” where women gave higher scores than men. We can see also that there was a significant main effect of age for most strategies. As indicated by the effect size, the largest difference was over the “Enhance looks,” where younger participants gave higher scores than older ones, followed by the “Do more risky, physically demanding and unusual things,” where younger participants were more likely to do unusual and risky things than older ones, and older participants were more likely to do sports than younger ones.

There was a significant main effect of sexual orientation on the “Enhance looks” strategy. Post-hoc analysis using Bonferroni indicated that, for the “I would have waxing/laser treatment (hair removal)” act, heterosexual with same-sex attractions participants gave significantly higher scores than exclusive heterosexual participants. In addition, there was a significant main effect of sexual orientation on the “Increase intellectual capacity.” Post-hoc analysis using Bonferroni indicated that, for the “I would read more books” and the “I would show interest in art/music/literature” acts, heterosexual participants with same-sex attractions gave significantly higher scores than exclusively heterosexual participants. Marital status was not significant for any of the strategies, and no significant interactions were produced.

**Discussion**

By using a combination of qualitative research methods, we identified 87 acts that people were likely to perform in order to become more attractive as mates. Using quantitative research
methods, we classified these acts in 16 different strategies. Among the most likely to be used ones, were to enhance one’s looks and to become more pleasant. Women were more likely than men to adopt strategies which involved looks, while men were more likely than women to adopt strategies which involved demonstrating resource acquisition capacity. Moreover, age effects were found for most strategies. The identified strategies were classified into two broader domains, one aiming to develop and demonstrate fitness-increasing qualities, and the other to deceive about fitness-impairing traits.

As it was originally predicted, factors which indicated desirable character traits emerged, namely “Become more pleasant” and “Self-improvement.” About 80% of the participants indicated that they would try to look more pleasant, and about 57% that they would try to improve themselves, especially their character. Research on mate preferences indicates that, being kind and understanding, are highly valued in prospective partners (Buss, 2016); thus, we expected that a factor reflecting people’s effort to appear more kind would emerge, but this was not the case. One possible explanation is that such effort was captured in other strategies. In particular, people indicated that they would do volunteer work, which classified under the “Increase intellectual capacity” factor. Furthermore, people who score low in kindness may try to keep it hidden (see O’Sullivan, 2008), which is captured by the “Keep undesirable traits hidden” factor. Future research could extend the current study by asking people to rate specifically if, in order to become more attractive to prospective mates, they would attempt to demonstrate kindness and understanding.

Moving on, also consistent with our original prediction, factors that reflected resource provision capacity emerged, namely “Increase social status,” “Spend money on someone I am interested in,” and “Showing off and exaggerating wealth.” Resource provision capacity was also captured in the “Increase intellectual capacity” and the “Show off abilities and talents” strategies, as intelligence, talents, and abilities predict this capacity. People indicated an increased willingness to use these strategies; for instance, about 54% of the participants indicated that they would be likely to demonstrate their abilities and talents, and more than half of the participants indicated that they would spend money on someone they were interested in. Yet, the “Showing off and exaggerating wealth” was not a preferred strategy, as only 5% of the participants indicated that they would use it.

In accordance to our original prediction, strategies emerged that relate to good looks, namely “Enhance looks,” “Lose weight,” “Drastic appearance changes,” and “Enhance social media profile.” The “Enhance looks” strategy was the most preferred one, with more than 84% of the participants indicating that they were likely to adopt it. Similarly, in order to become more attractive as mates, nearly 55% of the participants indicated that they would try to lose weight, and more than one in five that they would enhance their social media profile. These findings suggest that, in order to become more attractive as partners, people predominantly resorted to strategies aimed to enhance their looks. This conclusion is not surprising, given that looks summarize information about traits with high fitness value, including health, genetic quality and reproductive capacity. In addition, looks, as opposed to other traits, such as resource provision capacity, can be assessed in a few seconds, so in screening for desirable mates, it would be efficient for mate-seekers to start from looks, and if these satisfy them, to proceed in assessing other traits. This being the case, it would not be effective if people paid attention to demonstrating other qualities ignoring their looks, because prospective mates would not bother to assess them if looks did not appeal to them.

As we originally predicted, the “Develop similar interests” strategy, where people become more attractive to prospective mates by showing them that they are similar to them, emerged. Here, individuals would adopt hobbies and habits of prospective partners, they would show agreement with them, and they would show interest in what interests them. This strategy seems to involve deception, as people would engage for instance, in specific activities in order to be liked by prospective partners, and not necessarily because they were genuinely interested in such activities. Yet, this strategy did not classify under the deception domain, suggesting that people were genuinely interested in becoming more similar to prospective partners, and not to deceive them that they were similar. This strategy was also popular, with more than 40% of the participants indicating a willingness to use it.

We did not predict the emergence of the “Do more risky, physically demanding and unusual things” strategy. One interpretation of this strategy is that, it enables people to signal their capacities in a reliable manner. For instance, only people who have good physical capacities would risk doing physically demanding things. Thus, such actions may reliably signal to prospective mates that individuals have good physical qualities (see Zahavi and Zahavi, 1997; Miller, 2000).

Consistent with our original prediction, the extracted strategies classified into two broader domains, namely a domain where people would attempt to develop and demonstrate desirable qualities, and another domain where they would deceive about undesirable traits. Thus, in the former domain, people would attempt to increase and demonstrate their resources generating capacity by receiving more education, getting a job promotion and spending money on a prospective partner, while in the second domain, they would attempt to exaggerate their wealth and present their financial situation better than it actually is. Similarly, in the former domain people would attempt to improve their character and they would demonstrate that they have good personality traits, such as pleasantness, while in the second domain they would attempt to hide character and behavioral flaws, such as a psychological problem. In the former domain, people would enhance their appearance by looking after their body, improve their clothing and losing some weight, while in the second domain, they would deceive about their physical qualities by drastically altering their body through artificial means, such as a plastic surgery and liposuction.

Men value looks in an intimate partner more than women (Buss et al., 2001; Thomas et al., 2020). Accordingly, women were more willing than men to use strategies for enhancing
their looks. In particular, they indicated a higher willingness to improve their appearance by looking after their skin, hair, by wearing clothes that flattered them and by losing weight. On the other hand, women value resource acquisition potential in a prospective partner more than men (Buss, 2016; Thomas et al., 2020). Accordingly, men were more likely to attempt to develop and demonstrate resource acquisition capacity, by buying gifts for someone they were interested in, and by increasing their social status. They gave also higher mean scores in showing off abilities and talents, and in demonstrating and exaggerating wealth; these differences approached but did not pass however the significance level. Previous research has also identified similar sex differences (Schmitt & Buss, 1996). The current research, by identifying the structure of self-promotion strategies, has more accurately identified the strategies in which the sexes diverge or converge. Moreover, the significance and the magnitude of these differences is contingent to the cultural context of the study (Bendixen & Kennair, 2015). Thus, future research could employ the identified factor structure, in order to examine how sex differences vary across different cultural contexts.

Age predicted most strategies. As indicated by the effect size, the largest effect was over the “Enhance looks” strategy, with younger participants indicating a higher willingness to use it than older ones. One possible explanation is that, as people get older, their looks deteriorate, so this is not their strongest selling point in the mating market; accordingly, they divert their limited resources in displaying other qualities, which have a positive association with age. Consistent with this interpretation, we found that older participants indicated a stronger willingness to show off wealth and social status. We also found that, younger participants were more willing to attempt to enhance their social media profile than older participants. One explanation is that, older generations may be less familiar with social media, and less likely to use them than younger generations (see Correa et al., 2010). In addition, older participants indicated that they were more likely to attempt to lose some weight in order to become more attractive to prospective mates. One reason is that, as people get older, metabolism changes and it is easier to get extra weight (Pontzer et al., 2021), which turns losing weight a strategy more likely to be used by older participants.

In most cases, sexual orientation did not predict the use of the identified strategies, suggesting that individuals of different orientations employ similar strategies in order to become more attractive as mates. However, our results need to be considered preliminary, because although our sample was large, it was not large enough to include many participants in all sexual orientation categories. Accordingly, the lack of significant effects may partially be due to our study not having sufficient power. Moving on, we asked participants to indicate their willingness to use self-promotion strategies assuming that they were single. We aimed to assess the general willingness to use such strategies; thus, if we did not do so, most participants who were in a relationship or married would indicate a low willingness to use self-promotion strategies, as they had already secured a mate. Consequently, the way the study was designed, explains why marital status did not emerge as a statistically significant predictor of self-promotion mating strategies.

Our research was designed to advance earlier work on self-promotion strategies, so it would be fruitful to compare our findings with past findings. More specifically, Schmitt and Buss (1996) came up with 31 such strategies, while our study extracted almost half this number. This difference is due to our use of dimension reduction techniques, which can provide a more accurate identification of the underlying factor structure. Furthermore, these techniques revealed an even broader two-domain structure. In addition, there were considerable similarities in the strategies identified by Schmitt and Buss (1996) and the ones we identified here, which were consistent with the evolutionary theoretical framework. Yet, there were also differences. One such difference was that Schmitt and Buss (1996) found several strategies including “Act Kind,” “Act Sensitive,” and “Act Helpful,” which demonstrate personality traits, such as kindness and understanding, but such strategies did not emerge here. One possible explanation is that this difference reflects a cultural difference. Another explanation is that Schmitt and Buss (1996) study investigated the acts that people do in order to become more attractive along with the acts that people do in order to attract prospective mates. The two are very similar but not completely overlapping. This difference can also explain why the strategies “Invoke Love,” “Make Proposition,” “Use Alcohol,” “Have Sex,” “Become Friends,” “Communicate Often,” and “Display Sexual Exclusivity” identified by Schmitt and Buss (1996) did not emerge here.

Furthermore, the “Enhance social media profile” strategy did not emerge in Schmitt and Buss (1996), as social media such as the Facebook, did not exist at that time. Similarly, the “Develop similar interests,” “Self-improvement,” and the “Keep undesirable traits hidden” did not emerge in Schmitt and Buss (1996) study. One possibility is that the current study employed a larger and more diverse sample than the Schmitt and Buss (1996) study, which means that the latter may have missed the acts that give rise to these factors. It could also be the case that these acts were identified, but these factors did not emerge because dimension reduction techniques were not used.

Environmental factors may affect the identified self-promotion strategies. For instance, the “Enhance social media profile” strategy would be less likely to be used in a cultural context where social media use is not widespread, than in a cultural context where most people have a social media profile. In addition, in pre-industrial societies parents have a considerable influence in determining their children’s spouses, through the institution of arranged marriage (Apostolou, 2007, 2010). Thus, in these societies, people would direct their self-promotion strategies toward parents, adjusting them to become more attractive as prospective in-laws. Furthermore, environmental factors may affect the fitness contributions of specific traits. For instance, the resource provision capacity of a prospective partner would be more fitness-increasing in a context where resources are scarce and the social support system is limited, than in a context where
resources are more abundant and the social support system is highly developed. This being the case, people would be more likely to employ strategies that demonstrate their resource provision capacity in the former than in the latter context. Accordingly, we expect considerable cross-cultural variation in the self-promotion strategies, mandating future cross-cultural research in the area.

One limitation of the current work is that it employed self-report instruments, so there was no way for us to confirm the honesty of participants’ answers. Moreover, our research was based on non-probability samples, so its findings do not readily generalize to the population. Also, in order to take the survey, the respondent should have access to a computer or a smartphone. By recruiting over social media, there is the possibility that individuals of lower socio-economic status who may not have access to devices to use social media, were underrepresented. It is also possible that, those who were more involved in social media and therefore, were more likely to see the survey, differed from the general population with respect to self-promotion strategies. Furthermore, it appears that single people were overrepresented in our sample. One possible explanation is that, single people have a stronger motivation to attract partners, so they may be more interested in the topic of the study.

Moving on, in Study 1, participants were asked to indicate not only the acts that they had performed in the past, but also the acts that were likely to use in the future. We did so in order to construct a more inclusive list of acts that people would perform; however, by asking respondents to predict future actions, our list may have included acts that would rarely or never be employed. Moreover, participants responded hypothetically, so in actual situations, they may use different strategies than the ones they have indicated here. Furthermore, people may use different strategies for becoming attractive to casual and different strategies for becoming attractive to long-term mates (Schmitt & Buss, 1996); yet, in the current study, we did not distinguish between the two. In addition, in the current study we did not examine the effectiveness of the identified strategies, something that future studies need to do. In addition, there are several factors, such as personality, that predict the adoption of such strategies, which were not examined in the present study. Furthermore, the current research was confined to the Greek cultural context, and its findings may not readily apply to other cultural settings.

An important aspect of mating is to appeal to prospective mates. In the present study, we have identified a plethora of acts that people use in order to become more attractive as mates, and we have classified them in broader strategies. Nevertheless, in the light of the limitations of the current research, and the complexity of the phenomenon, much more work is required if self-promotion strategies are to be understood.

**Funding**
The authors received no financial support for the research, authorship, and/or publication of this article.

**ORCID iDs**
Menelaos Apostolou https://orcid.org/0000-0002-0685-1848
Yan Wang https://orcid.org/0000-0003-3664-7933

**References**
Apostolou M. (2007). Sexual selection under parental choice: The role of parents in the evolution of human mating. *Evolution and Human Behavior*, 28(6), 403–409. https://doi.org/10.1016/j.evolhumbehav.2007.05.007
Apostolou M. (2010). Sexual selection under parental choice in agropastoral societies. *Evolution and Human Behavior*, 31(1), 39–47. https://doi.org/10.1016/j.evolhumbehav.2009.06.010
Apostolou M., & Wang Y. (2020). The challenges of keeping an intimate relationship: An evolutionary examination. *Evolutionary Psychology*, 18(3), 1–11. https://doi.org/10.1177/1474704920953526
Arockey S. (2016). Intrasexual rivalry among women. In Shackelford T. K., & Weekes-Shackelford V. A. (Eds.), *Encyclopedia of evolutionary psychological science* (pp. 1–8). Springer. https://doi.org/10.1007/978-3-319-16999-6_1424-1
Bech-Sørensen J., & Pollet T. V. (2016). Sex differences in mate preferences: A replication study, 20 years later. *Evolutionary psychological science*, 2(3), 171–176. https://doi.org/10.1007/s40806-016-0048-6
Bendixen M., & Kennair L. E. O. (2015). Revisiting judgment of strategic self-promotion and competitor derogation tactics. *Journal of Social and Personal Relationships*, 32(8), 1056–1082. https://doi.org/10.1177/0265407514558959
Buss D. M. (1988). The evolution of human intrasexual competition: Tactics of mate attraction. *Journal of Personality & Social Psychology*, 54(4), 616–628. https://doi.org/10.1037/0022-3514.54.4.616
Buss D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral & Brain Sciences*, 12(1), 1–14. https://doi.org/10.1017/S0140525X00023992
Buss D. M. (2016). *The evolution of desire: Strategies of human mating* (4th ed.). Basic Books.
Buss D. M., & Barnes M. L. (1986). Preferences in human mate selection. *Journal of Personality & Social Psychology*, 50(3), 559–570. https://doi.org/10.1037/0022-3514.50.3.559
Buss D. M., & Hawley P. H. (2010). *The evolution of personality and individual differences*. Oxford University Press.
Buss D.M., & Schmitt D. P. (2019). Mate preferences and their behavioral manifestations. *Annual Review of Psychology*, 70, 77–110. https://doi.org/10.1146/annurev-psych-010418-103408
Buss D. M., Shackelford T. K., Kirkpatrick L. A., & Larsen R. J. (2001). A half century of mate preferences: The cultural evolution of values. *Journal of Marriage and Families*, 63(2), 491–503.
Calogero R. M., Pina A., Park L. E., & Rahemtulla Z. (2010). Objectification theory predicts college women’s attitudes toward cosmetic surgery. *Sex Roles*, 63(1), 32–41. https://doi.org/10.1007/s11199-010-9759-5

**Declaration of Conflicting Interests**
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.
Confer J. C., Perilloux C., & Buss D. M. (2010). More than just a pretty face: Men’s priority shifts toward bodily attractiveness in short-term versus long-term mating contexts. *Evolution and Human Behavior, 31*(5), 348–353. https://doi.org/10.1016/j.evolhumbehav.2010.04.002

Correa T., Hinsley A. W., & de Zúñiga H. G. (2010). Who interacts on the Web?: The intersection of users’ personality and social media use. *Computers in Human Behavior, 26*(2), 247–253. https://doi.org/10.1016/j.chb.2009.09.003

Darwin C. (1871). *The descent of man and selection in relation to sex.* Murray.

Davis A. C., & Aroncky S. (2020). An evolutionary perspective on appearance enhancement behavior. *Archives of Sexual Behavior, 1-35.* https://doi.org/10.1007/s10508-020-01745-4

Duck S. W. (1994). Meaningful relationships: Talking, sense, and relationships. Sage.

Frederick D. A., Buchanan G. M., Sadehgi-Azar L., Peplau L. A., Duck S. W. (1994). *Meaningful relationships: Talking, sense, and relationships.* Sage.

Gangestad S. W., & Simpson J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences, 23*(4), 573–644. https://doi.org/10.1017/S0140525X0000337X

Gosse D., & Aroncky S. (2012). The state of Canadian boyhood—beyond literacy to a holistic approach. In *Education, 18*(2), 67–97. https://doi.org/10.37119/ojs2012.v18i2.64

Li N. P., Bailey J. M., Kenrick D. T., & Linsenmeier J. A. W. (2002). Desiring the muscular ideal: Men’s body satisfaction in the United States, Ukraine, and Ghana. *Psychology of Men & Masculinity, 3*(2), 103–117. https://doi.org/10.1037/1524-9220.8.2.103

Gangestad S. W., & Simpson J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences, 23*(4), 573–644. https://doi.org/10.1017/S0140525X0000337X

Li N. P., Valentine K. A., & Patel L. (2011). Mate preferences in the US and Singapore: A cross-cultural test of the mate preference priority model. *Personality and Individual Differences, 50*(2), 291–294. https://doi.org/10.1016/j.paid.2010.10.005

Lippa R. A. (2007). The preferred traits of mates in a cross-national study of heterosexual and homosexual men and women: An examination of biological and cultural influences. *Archives of Sexual Behavior, 36*(2), 193–208. https://doi.org/10.1007/s10508-006-9151-2

Luo S. (2017). Assortative mating and couple similarity: Patterns, mechanisms, and consequences. *Social and Personality Psychology Compass, 11*(8), 1–14. https://doi.org/10.1111/spc3.12337

Mafra A. L., Varella M. A. C., Defelipe R. P., Anchieta N. M., de Almeida C. A. G., & Valenota J. V. (2020). Makeup usage in women as a tactic to attract mates and compete with rivals. * Personality and Individual Differences, 163*, 1–5. https://doi.org/10.1016/j.paid.2020.110042

Mark K. P., Janssen E., & Milhausen R. R. (2011). Infidelity in heterosexual couples: Demographic, interpersonal, and personality-related predictors of extradyadic sex. *Archives of Sexual Behavior, 40*(5), 971–982. https://doi.org/10.1007/s10508-011-9771-z

Matthews G., Deary J. J., & Whiteman M. C. (2015). Personality traits. Cambridge University Press.

McCabe M. P., Ricciardelli L., Waqa G., Goundar R., & Fotu K. (2009). Body image and body change strategies among adolescent males and females from Fiji, Tonga and Australia. *Body Image, 6*(4), 299–303. https://doi.org/10.1016/j.bodyim.2009.06.001

Miller G. (2000). The mating mind. BCA.

O’Sullivan M. (2008). Deception and self-deception as strategies in short- and long-term mating. In Geher G., & Miller G. (Eds.), *Mating intelligence: Sex, relationships, and the mind’s reproductive system* (pp. 135–157). Lawrence Erlbaum Associates Publishers.

Pontzer H., Yamada Y., Sagayama H., Ainslie P. N., Andersen A. L., Anderson L. J., Arab L., Baddou I., Blaak E. E., Bedu-Addo K., Blane S., Blaak E. E., Bonomi A. G., Bouten C. U. C., Bouet P., Buchowski M. S., Butte N. F., Camps S. G., Close G. L., & Cooper J. A., et al. (2021). Daily energy expenditure through the human life course. *Science.* https://doi.org/10.1126/science.abe5017

Ricciardelli L. A., & McCabe M. P. (2003). A longitudinal analysis of the role of biopsychosocial factors in predicting body change strategies among adolescent boys. *Sex Roles, 48*(7–8), 349–359. https://doi.org/10.1023/A:1022942614727

Schmitt D. P., & Buss D. M. (1996). Strategic self-promotion and competition derogation: Sex and conflict effects on perceived effectiveness of mate attraction tactics. *Journal of Personality and Social Psychology, 70*(6), 1185–1204. https://doi.org/10.1037/0022-3514.70.6.1185

Shomaker L. B., & Furman W. (2010). A prospective investigation of interpersonal influences on the pursuit of muscularity in late adolescent boys and girls. *Journal of Health Psychology, 15*(3), 391–404. https://doi.org/10.1177/1359105309350514

Symons D. (1979). *The evolution of human sexuality.* Oxford University Press.

Thomas A. G., Jonason P. K., Blackburn J., Kennair L. E. O., Lowe R., & Malouff J., … Li N. P. (2020). Mate preference priorities in the east and west: A cross-cultural test of the mate preference priority model. *Journal of Personality, 88*(3), 606–620. https://doi.org/10.1111/jopy.12514

Vartanian L. R., Wharton C. M., & Green E. B. (2012). Appearance vs. Health motives for exercise and for weight loss. *Psychology of Sport and Exercise, 13*(3), 251–256. https://doi.org/10.1016/j.psycsport.2011.12.005

Walter K. V., Conroy-Beam D., Buss D. M., Asao K., Sorokowska A., & Sorokowski P., … Zapaničić M. (2020). Sex differences in mate preferences across 45 countries: A large-scale replication. *Psychological Science, 31*(4), 408–423. https://doi.org/10.1177/09567976209004154

Whisman M. A., Gordon C. C., & Chatav Y. (2007). Predicting sexual infidelity in a population-based sample of married individuals. *Journal of Family Psychology, 21*(2), 320–324. https://doi.org/10.1037/0893-3200.21.2.320

Zahavi A., & Zahavi A. (1997). *The handicap principle: A missing piece of darwin’s puzzle.* Oxford University Press.