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Individual differences in necessities and luxuries in mate choice

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Declaration

I hereby declare that I have carried out this thesis independently. The sources used were duly cited. The thesis has not been used to obtain another or the same degree.

Prague, 28th of April, 2024   Obada Shweiki

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Preface

When I was offered the opportunity to carry out my thesis in evolutionary psychology, I felt thrilled. Psychology is a field in which I have a deep seated interest on a personal level as I think that, throughout the years, it has assisted me in better understanding myself and others around me in some aspects. Evolutionary psychology, specifically, was a completely new experience for me. I had not heard of it, at least not in such a way, until the opportunity arose. More still, the research field of human mate choice was a completely uncharted territory for me. I thought, then, that there is no better way to acquaint myself with the field than to receive a hands-on experience under the tutelage of my supervisor, Zsófia Csajbók, and to sift through the extant literature myself. The prospect also entailed improving my knowledge of statistics, as well as fine-tuning my ability to read scientific papers by understanding the technical jargon. With all that in mind, I began working on the thesis that is before you now. The resulting product was one which taught me how to appreciate the arduous (and sometimes, admittedly, monotonous) process that underlies scientific work and writing. It placed me at the threshold of research, equipping me with the ability to meander the world of academic papers and to commence my own journey into it. It also taught me, most importantly, that even when doubt belies an endeavour which presents it in a way such that it seem beyond one's capabilities, one can nevertheless successfully complete the task at hand with diligence, perseverance, and the right attitude.

Abstract

In previous research, the budget allocation method was demonstrated to provide great utility when seeking to understand what shapes and drives human mate preferences and choices. This was done through subjecting individuals to hypothetical constraints in order to glean what traits sought after in individuals are necessities (must haves) and luxuries (nice to have) by presenting individuals with high and low budgets to "build" a partner. In this study, I have tackled already-published data from another perspective. The paper aimed to identify which dealmaker and dealbreaker traits were deemed to be either necessities or luxuries on a Hungarian sample (57% women). Furthermore, the paper aimed to demonstrate whether or not individual assessment was moderated by factors such as demographic variables (sex, age, education, residence, relationship status) and mate value. Lastly, this paper sought to determine which method is better when assessing individual mate preferences, that is, the simple rating or the budget-allocation method. Results indicated that the simple rating method yields stronger correlations than the budget-allocation method. Additionally, the current analysis corroborated previous findings, that is, that the sexes differ in their assessment of necessities and luxuries, and moreover, indicated that the sex of the participant was the most impactful moderator on individual assessment.

Keywords: mate value; dealbreakers; dealmakers; mate choice; trade-off.

1. Introduction

Psychological research into the underlying structures of the human psyche is one of the most important scientific endeavours towards the betterment of the quality of human life. Evolutionary psychology is one such approach. It is a theoretical attempt that aims to establish a link between the human psychological states and human evolutionary history. Put simply, it is a description of how our mental states are products of natural selection which evolved in response to the myriad of problems our human ancestors faced in their different environments across hundreds of thousands of years (Cosmides & Tooby, 2000).

As mentioned, it is assumed that our mental states are influenced by natural selection. One crucial aspect of natural selection that pertains to the survivability of a species is sexual selection which shapes its future. Given the importance of sexual selection in order to ensure the persistence of a species, the choice of organisms within it with regards to their mate choice is a matter of concern considering that their mate choices will dictate their evolutionary trajectory. This view can be attributed to Charles Darwin (1871) who, in his *The Descent of Man, and Selection in Relation to Sex*, discussed sexual selection to explain how different physical characteristics, even ones seemingly impractical (such as the peacock's plumage), aided in reproductive success.

This is where one of the main areas of evolutionary psychological research comes into play. That is, the study of mate choice. In particular, the study of human mate choice is of interest to researchers. The ability to discern the most optimal person to partner up with and how to achieve it is one of the most important questions that humans come to reckon with throughout the course of their lives. Our mate preferences and the potential success with which

they can guide our mate choice are vital, considering, as alluded to before, that the reproductive success of a species hinges on their ability to properly choose a mate (Buss, 1995). As such, evolutionary psychological research has paid much attention to these issues that permeate the life of almost every human: how do people choose their partners? Why do they choose a particular person and not another? Are there individual differences between people in mate choice? If so, how do they differ? And other questions that drove past research and remain an impetus for current one. These questions are relevant both to the understanding of the ancestral human environment and challenges, and how it impacts our psychological states in contemporary times, as well as to understand the difficulties with which people are met when searching for a partner and what constitutes a successful endeavour to find one

1.1. Evolutionary psychological theories on mate choice

In evolutionary psychological research of human mate choice, there exists a general assumption that the sexes possess different preferences that shape their choices and that, additionally, the processes by which these preferences are shaped also are disparate. This assumption rests upon an analysis of how sexual selection guides evolution. Trivers (1972) proposed the *parental investment theory* which underlies the aforementioned assumption.

According to Trivers (1972), women and men across the evolutionary history of humankind were met with different reproductive challenges on the basis of the degree of investment of either parent into their offspring. These distinctive challenges with which men and women met led to the shaping of their sexual evolution in a dissimilar fashion and, by extension, to the rise of different adaptations to address these sex-unique challenges. For instance, Trivers (1972) discusses how because of a longer period of gestation, and,

additionally, the amount of time and resources a mother invests into child rearing, women evolved in a way such that their mating strategy focused on choosing a male partner who possesses a high status relative to other group members. The reasoning is that if a male possesses a higher status than other males, then they also have access to more resources. Given that women spend a lot of resources during pregnancy and after childbirth, their resources can become depleted, making them more dependent on external help. Thus, choosing a man who already has access to resources can allow the woman to avoid the expenditure of time and energy to acquire even more resources during a time when it was difficult for her to do so. Another factor that is hypothesised to influence women's mate choice is a man's personal characteristics which may indicate to a woman whether or not the prospective partner is willing to invest into their future offspring. Moreover, a male's physical attributes may indicate good genes that can be passed onto her offspring. These reasons (amongst others) combined made women more discriminate (than men) in their choices of who they may partner up with and thus, pickier of the men they copulate with.

On the other hand, Trivers (1972) argues that men faced different reproductive challenges to women. Whilst men may contribute less than women in their parental investment, men have to nevertheless ensure their reproductive success. This was done through pursuing physically attractive women. The postulated explanation is that physical attractiveness indicates youth and health and, by extension, fertility. Thus, men's sexual strategy focused on the acquisition of physically attractive women which could indicate to the man in question that his chances of having more offspring (and healthy ones at that) are higher than if he were to mate with another woman who does not fulfil the criterion.

Considering the aforementioned theoretical context underlying human mate choices and how individuals with unique backgrounds may differ in what shapes their preferences, researchers have constructed different theoretical tools intended to measure and analyse the factors which may steer our choices. Below, I will discuss what some of those tools are and showcase how different they are, and how, despite all the differences, they collectively contribute to the betterment of human knowledge and understanding.

1.2. Contextual differences

Before delving into the above mentioned tools, however, it is important to first discuss a key concept within the human mate choice research. That being *contextual differences*. Buss and Schmitt (1993) discussed in their paper that human mating does not only take one form but that it is more nuanced. Simply put, contextual differences refer to the relationship type that a person is either in or is interested in pursuing. In other terms, it can be articulated as two simplistic categories, either a short-term (or casual) relationship, or a long-term relationship. The reason why contextual differences are important is because numerous studies have found that individual mate preferences and, by extension, their choices, differ on the basis of the context in which they are situated. This contextual difference leads to different *sexual mating strategies*. These sexual strategies, as the authors showcase in their paper, are methods by which an individual is able to carry out the acquisition of a prospective partner. Individuals, therefore, choose context appropriate mating strategy, such that the route by which they approach a potential partner differs if they are interested in someone short-term only in juxtaposition to another person interested in pursuing a long-term relationship with someone else. In other words, people may change their approaches in order to successfully partner up with someone in a particular context (Csajbók et al., 2022, 2023; Fletcher et al., 2004; Jonason

et al., 2022; Li et al., 2002; Xu et al., 2022). If people were looking for a partner just to have a casual relationship with, then they may overlook certain traits that might be deemed unacceptable by the same person in a long-term relationship, or vice versa. Jonason and colleagues (2011, 2015) found that individuals who are interested in casual sex may adjust their mating strategy to allow for engaging in sexual activity more frequently. These are a few examples how the context of the relationship an individual is interested in may influence their mate preferences. Buss and Schmitt (1993) added a caveat, however. Different sexual strategies can come at different costs and challenges. Women, for example, in the long-term context, face the problem of choosing a man who is willing to invest, commit, and offer protection. In contrast, in the short-term context, women may have problems such as their reputation suffering or contracting STDs. Men, on the other hand, in the long-term context, may face the potential challenge of ascertaining confidence in their partner's loyalty and, by extension, paternal confidence. In the short-term context, they may face the challenge of identifying women who are sexually available. This highlights the importance that contextual differences must be given, since, as explained, one individual could vary in their preferences because of that and how they may face context dependent challenges. In the aforementioned example of a person looking for a casual relationship, they may prioritise physical attractiveness and place less value on another trait such as kindness, for instance. The contextual difference is highlighted in the analytical tools which I will delineate.

1.3. Relationship ideals

One of the ways intended to study what guides human mate choice and, by extension, shapes mate preferences, is the study of *relationship ideals*. Simply put, ideals are a point of reference to which individuals may defer and "consult" when assessing what sort of an

individual could make for a prospective partner, and whether or not a relationship with said partner fulfils particular criteria (Fletcher & Campbell, 2015). The concept of ideals, however, contains more than one theoretical layer. This is particularly present in the discussion of Fletcher and colleagues (1999). In their review, they highlight two approaches towards understanding what an ideal really is. Those two approaches include the *social cognitive approach* and the *evolutionary approach*.

The social cognitive approach assumes that ideals are individually relative and that they are sets of expectations maintained by individuals. These ideals, furthermore, are compartmentalised into two categories. The first one is the personal ideals. That is, what the individual would prefer having in a prospective partner and that these personally held ideals are more connected to the self. In other words, depending on how individuals assess themselves, their ideas of what an ideal partner would look like will differ based on how they view others in relation to their self assessment (Edlund & Sagarin, 2010). The second one is relationship ideals. This category may be related to what individuals think is preferable or should exist in a relationship regardless of individual ideals. That is, in a sense, they supersede individual ideals. An example is that one person may have a personal ideal about the degree of attractiveness that they would like for a prospective partner to possess. However, their ideal of what a proper and healthy relationship looks like is one that does not account for attractiveness but emphasises companionship, intimacy, friendliness, to name a few. It may be that people's oscillation between both groups of ideals is what shapes their mate choice. It is important to note, however, that Fletcher and colleagues (1999) do point out that these ideals are not mutually exclusive and that they may overlap and illustrate that in the following example: if humour is

deemed to be a pillar of a good relationship by an individual, then they would, in theory, search for a partner who aids them in the realisation of that relationship ideal.

The other approach mentioned was the evolutionary one. Similarly to the social cognitive approach, the evolutionary one also posits that individuals hold ideals to which they defer and diverge into three empirically derived categories that are not exclusive but somewhat dependent. The first factor, according to the authors, relates to warmth, which entails traits that qualify a person to be a proper parent. The second factor relates to the partner's physical characteristics, that is, apparent health markers as well as attractiveness. Lastly, the third factor pertains to an individual's social standing, in the sense of their status relative to other members, and the resources they possess. These three factors are alleged to contribute to and promote an individual's reproductive success and are hypothesised to underlie an individual's pursuit of an ideal partner. This approach ties in to the parental investment theory posited above. An individual's warmth can be, for example, a good indicator that someone may be a good parent, willing to provide. Their attractiveness can indicate traits such as fertility and good genes that can be passed onto offspring. Lastly, their resources can be used as a marker (by women especially) to assess whether or not a person (in particular, men) can provide for child rearing.

Another theoretical tool that researchers keep in their arsenal and related to studying individual ideals is discussed by Brander and colleagues (2020) and Conroy Beam and Buss (2016). *Non compensatory models* are models whereby individuals do not allow for *trade-offs* (which I will discuss further below). Put simply, it posits that individuals reject or consider a prospective partner in relation to whether or not they meet a particular criteria. An example of non compensatory models is the *threshold model* (Conroy Beam & Buss, 2016), which states

that individuals assess potential mates as being prospective partners on the basis of whether or not they meet a minimum criteria. This helps in quickly eliminating options that need no further consideration. That is because individuals are able to assess if particular traits in a prospective partner meet a range that is desired by them. An example of this is the *sequential aspiration model* which suggests that individuals uphold ideals of particular traits which they look for in a partner, and for which the prospective partner must precisely meet all the criteria in order to qualify as a partner (Miller & Todd, 1998). That is, individuals assess one trait and then proceed to assess the second trait should the first one be acceptable, and so on and so forth. For example, if an individual placed a high premium on physical attractiveness and had a conception of what their ideal partner should look like physically, they will then assess a person they were interested in relative to their ideal. If the person they are interested in fails to meet or exceed their idea of what a person's attractiveness should ideally be like, then the pursuer will cease any interest in the potential partner regardless of how their other traits are like. According to Miller and Todd (1998), the type of relationship someone pursues influences their aspiration levels, such that the aforementioned traits and their minimum level of acceptability differs on the basis of whether or not a person is, for example, pursuing a long-term relationship.

Finally, in relation to ideals, studying factors of mate choice is a facet of understanding ideals. In particular, the study of *dealmakers* and *dealbreakers* allows us to glean what people want to have or want to avoid in their prospective partner, respectively. These dealmaker and dealbreaker dimensions, similarly to how certain physical cues indicated good health and genes were preferred, also were selected for in humans so as to facilitate the acquisition of an appropriate partner (Jonason et al., 2015; Miller & Todd, 1998). To start off with dealmakers, they can be defined as positive characteristics or traits that exist in a prospective partner

(Csajbók & Berkics, 2017; Fletcher et al., 1999; Jonason et al., 2020). These traits could be defined broadly, but Csajbók and Berkics (2017) determined seven factors to underlie the concept of dealmakers, which were: warmth (such as being nurturing, loving, kind), stability (patient, calm), physical appearance (attractive), passion (sensual or good in bed), status (having a good job or a good financial status), intellect, (good education, intelligent), and dominance (self confident or brave). If a person were to possess these traits, and especially more than others in the selection pool, then they are more likely to be considered than others. In a sense, then, a dealmaker is a trait that increases the likelihood of a person being partner "material".

On the other hand, we also have dealbreakers. As the name implies, and standing in juxtaposition to dealmakers, they are traits that make an individual within the selection pool of a person *less* likely to be chosen. Dealbreakers are, thus, undesirable traits that people do not want in their prospective partner (Jonason et al., 2015, 2020). Again, though, dealbreakers may seem too broad of a concept to quantify, but in a study conducted by Csajbók and Berkics (2022), they have also determined seven factors that comprise dealbreakers. These are: unambitious (such as indecisive or without goals), hostile (unfriendly or malicious), filthy (dirty), arrogant (opinionated or egotistic), unattractive (as the name implies, ugly), clingy (insistent or wants commitment), abusive (aggressive or violent). Dealmakers and dealbreakers can be conceived of as *additive models*, which states that the more of a characteristic is present in an individual, the more desirable they become as prospective partners.

Brandner and colleagues (2020) describe in their paper that additive models work on the basis of individuals assigning weights to different characteristics in a prospective partner. The interested person in question would then calculate the sum of each weighted trait, add them

all up, and the higher sum may be deemed as a more desirable potential partner. For example, a person who seeks to establish a long-term relationship with could assign a value of 5 to kindness, 4 to attractiveness, 4 to warmth. The person would then examine how their potential partner holds up to each characteristic. Maybe their attractiveness is a 3, but their kindness is a 5 and their warmth is a 4. Put together, the individual and the sum of their characteristics may qualify them to be a partner.

Although both dealmakers and dealbreakers are useful conceptual tools when attempting to study the human mate choice, there is some evidence to indicate that dealbreakers may prove to be more important (Jonason et al., 2015), although other researchers contend the veracity of the claim (Csajbók & Berkics, 2022). Jonason and colleagues (2015), however, have found that people weighed negative characteristics (dealbreakers) more than positive characteristics (dealmakers) when evaluating potential partners. The claim, moreover, is that to be attentive to dealbreakers would be evolutionarily advantageous because the costs of partnering up with the wrong individual are higher than the benefits of partnering up with someone who might be otherwise (Haselton & Buss, 2000). Of course, people's perception of dealmaker and dealbreaker traits do not exist in a vacuum and are influenced by their individual background and environment (Buunk et al., 2002; Csajbók et al., 2023; Walter et al., 2021). Later in the introduction, I will tackle some moderators that may influence how people assess different dealmaker and dealbreaker traits, and how individuals may rate the same trait as more or less of a dealmaker or dealbreaker.

As I have mentioned before, contextual differences permeate the human mate choice research. Fletcher and colleagues (2004) studied whether or not individuals contextually differ in their mate choice in the warmth/trustworthiness, attractiveness/vitality, and resources/status

factors. They found that, for instance, attractiveness in a short-term context was preferred over warmth. Others, such as Csajbók and colleagues (2023) found that women rate their value higher in the short-term context whilst, on the other hand, men place a higher value on themselves in the long-term context. Mating strategy was also mentioned to be influenced by contextual differences.

1.4. Mate value

Although studying individual ideals helps in the process of uncovering how people's preferences and choices are shaped, there are other methods utilised equally as vital in research. *Mate value* research is key in the endeavour to understand what drives human mate choice. Mate value can be understood as the degree to which an individual is desirable as a partner to others; the more desirable characteristics an individual has, the more they want their prospective partner to be of equal value (Regan, 1998). Edlund and Sagarin (2014) argued in their paper mate value is a construct that can be measured holistically in individuals, without necessarily understanding what factors precisely are taken into the account of the process of evaluating it.

Mate value can be seen as subjective (i.e., self-assessment) or objective (Csajbók et al., 2019, 2023). By understanding individuals' self perceived mate value and how desirable a person deems themselves to be, we might be able to predict, for example, their preferences for levels of attractiveness in a potential partner. As Buss and Shackelford (2008) show in their research, physically attractive women had different preferences than other women. Or, to take education as an example: in theory, higher education could lead to higher paying jobs, which could increase someone's perception of their mate value if they attained a high level of education, which may influence their preferences (Buss et al., 2020; Tadinac & Hromacko,

2007). However, this may not solely be attributed to mate value. This may be due to *homogamy*, which will be discussed further below. Another way of understanding the importance of mate value is found in the discussion of Brase and Guy (2004). They mentioned how mate value is moderated by a person's self esteem through motivating individuals to take corrective action if it was deemed too low to be more appealing to the opposite sex. This is similar to the sociometer theory which suggests that people use their levels of self-esteem as a tool to assess their levels of social acceptance and it functions as a warning tool that motivates individuals to increase it to be more socially accepted (Leary et al., 1995; Leary, 2012). They found, for instance, that women, as they age, spent more time working on their physical appearance which, they say, follows, considering that as mate value drops, one's self assessment drops, too, and, as mentioned, this would lead an individual to take corrective actions.

This could lead to what is referred to as *assortative mating*, which can be defined as an individual's tendency to choose a partner whose mate value is akin to their own mate value (Vandenberg, 1972). Vandenberg (1972) discussed in his paper how individuals have an inclination towards partnering up with individuals of similar characteristics, be they socioeconomic, religious, or others. Buston and Emlen (2003) discuss in their paper the "likes attract" hypothesis, which, as the name implies, indicates that similar individuals are attracted to each other. They found that individuals with "high self perception" are more discriminate in their mate choice and thus end up with a more highly valued partner. In a review, Luo (2017) delineates the characteristics in which assortative mating can be observed. Homogamy, which is defined similarly by Vandenberg (1972), can be found in demographic variables. One such variable is age. Luo mentions that spousal age homogamy has correlations ranging between .70 to .90. An increase over time in educational homogamy was also demonstrated, with

correlations between .40 to .60. Assortative mating could also manifest in people's attitudes and values. Luo points out, however, that there is a difference between attitudes and values. For the former, there is a stronger correlation between .40 to .70, whilst with the latter, a weaker correlation between .10 to .40. Other characteristics of assortative mating which Luo mentions are in abilities and intelligence, physical characteristics, personality, or lifestyle.

With that said, however, and as alluded to by the preceding discussion, it can be seen that mate value is a complex, multilayered concept. Throughout the mate value discussion I mentioned individuals' self-perception of mate value, although it tells only one part of the story. Csajbók and colleagues (2019) discussed in their paper how measuring mate value can be difficult due to a discrepancy between what they refer to as self-perceived, or subjective, mate value, and the actual, or objective, mate value. The subjective mate value can be understood as a self-referential sort of assessment of oneself. That is, it is more tied to conceptions of self-esteem and the way individuals perceive themselves to be and how this perception influences their ideas of how valuable or not they are as a mate. Objective mate value, on the other hand, can be seen as characteristics that should, in theory, impact a person's mate value, regardless of how they perceive it, such as age or income, to name a few. This makes sense in light of the parental investment theory mentioned above. As a woman ages, her fecundity decreases, and therefore would be less desirable. For a man, on the other hand, to have less income, and by extension less resources, should also be less desirable. The authors mention in their paper that a difficulty with which mate value research is met is the fact that what is often measured is self-perceived mate value, and not the objective one, since, as they point out, results often do not vary with demographic variables. However, the authors also point out that self-perceived mate

value is perhaps an even better predictive tool to examine individual preferences and choices than objective indicators (Arnocky, 2018).

Similarly to dealmakers and dealbreakers, mate value can be influenced by the aforementioned contextual differences. Csajbók and colleagues (2023) found that the number of sexual partners individuals had across their lifetime influenced the perception of their mate value. Additionally, the desirability of a person in the short-term context correlated with their assessment of their physical attractiveness. By extension, then, this has indications that the number of sex partners a person had (in other words, their casual, or short-term, relationship experience) influenced their individual assessment of their mate value in the short-term context. The authors themselves point out that short-term desirability correlated with both physical attractiveness and mating success. On the other hand, a person who sought to be a parent found themself to be more desirable in a long-term relationship. These contextual differences were also sex differentiated. For instance, the authors note how women judged themselves to be more desirable in short-term contexts because of their attractiveness, while men deemed themselves more desirable in a long-term relationship where attractiveness is not as emphasised as in a short-term relationship.

1.5. Trade-off model

The final model which I will be discussing, and which I have alluded to earlier in the introduction, is the *trade-off* model. The trade-off model stands in contrast to some of the other models mentioned before by recognising that individuals are more or less realistic in their expectations and realise that one cannot "have everything" and, thus, accordingly curb one's expectations. In a sense, then, it posits that individuals, rather than instantly removing a potential partner from the candidate pool because they lack a particular trait, may be willing to

overlook certain shortcomings should the candidate in question possess other, better traits that may overshadow the aforementioned negative trait. Take, for example, a person who is looking for a stable, long-term relationship and would also like to start a family. They may find a potential partner who is kind, warm, and is deemed a good parental figure by them. However, they may not be as attractive as the pursuer would like them to be. According to the trade-off model, however, this would not be a deterrent to the pursuer, as the prospective partner has other traits that increase their evaluation, such as the aforementioned qualities that make them a good partner for the desired long-term relationship.

An example of the trade-off model is the *budget-allocation method*, which is the method utilised in the current thesis. The budget allocation method is one whereby individuals are provided with budgets (tokens or some monetary amount) that can be limited, less restricted, or even unlimited (Edlund & Sagarin, 2010; Li et al., 2002, 2007). Additionally, individuals are presented with sets of traits to which they can allocate their budget to design the type of partner they would like to have. These traits can be like the ones mentioned earlier in the introduction, such as the dealmaker or dealbreaker traits. Li and colleagues (2002) discuss the method at large. The purpose of utilising this method is to determine what individuals deem to be a necessary or a luxury trait by presenting individuals with constrictions so as to simulate reality where individuals may not have the ability to pick the best possible partner but a partner from the selection pool available to them. Li and colleagues (2002) explain that a necessity is something which people need to have fulfilled before seeking other things. Necessities, in other words, *must* be acquired. Once individuals do acquire that particular trait and are able to pursue other traits, individuals place less value on that necessary trait. That is because, as explained,

there is higher utility in acquiring the aforementioned luxury traits and because there is no further utility to be acquired from having more of said necessity.

To take dealmaker traits, the more a person allocates from their budget into a particular trait, the more likely the prospective partner will have said trait. On the other hand, with regards to dealbreakers, the more they invest in it from their budget, the less likely their prospective partner will have the trait in question. To illustrate this with a short example, an individual may allocate, on a scale of 0-10 (where 10 means the potential partner will definitely have the trait and 0 indicates they definitely will not), 7 to kindness, indicating that it is a desirable trait. In a dealbreaker context, they may assign a value of 6 to abusiveness (similarly on a scale of 0-10, where 10 indicates that the partner will definitely *not* have the trait, and 0 indicating that they *will* have it), pointing to the trait as being undesirable by the individual in question. Thus, by analysing how individuals allocate their budgets into different traits, we are able to determine what is generally sought after as a necessity, and what can be determined to be a luxury.

As I have mentioned earlier, budgets can differ in the leeway with which they afford individuals (i.e., if they are restricted or unrestricted budgets). Csajbók and Berkics (2022) utilised the budget-allocation model to examine necessities and luxuries. In their paper, they introduced eight different budgets to participants. The eight budgets were then dissected into two groups: four budgets dedicated to studying participants in a (hypothetical) long-term context, and the other four aimed at examining necessities and luxuries in a short-term context. This was done to study whether or not necessities may differ between contexts. Of the four budgets (be they long- or short-term), two budgets afforded individuals with more tokens to allocate when designing their partner (42 tokens) and the other two offered a more limited budget (21 tokens). Participants had to, in either budgets (and contexts), allocate their tokens

into the traits which they were presented with. Upon doing so, the results of each participant from each budget were contrasted to determine necessary and luxury traits through deducting the amount of tokens invested in the low budget into one particular trait from the tokens invested in the high budget into the same trait. If the results were larger than the low budget investments, then the trait would be considered a luxury. If the results were smaller than the low budget investments, then the trait in question would be deemed a necessity. That is because individuals in the more restricted budget (the 21 tokens) invested more of their limited tokens into that trait, while in the less restricted budget, as per the aforementioned rationale (i.e., the fact that individual spending on necessities ceases after a minimum amount is acquired because the utility of acquiring other traits is superior to merely investing more in a necessity), participants had the ability to divest some of the tokens which they had into other traits.
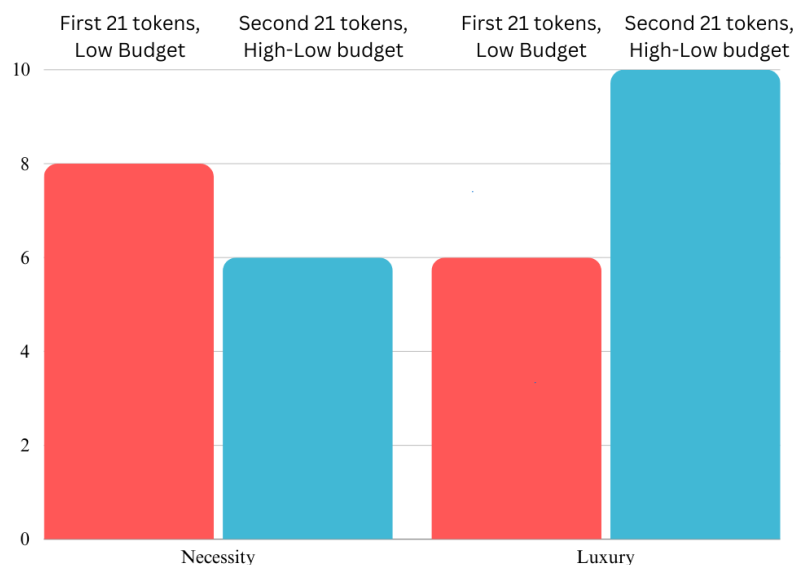

Figure 1: How Necessities and Luxuries are Discovered

Csajbók and Berkics (2022) found that what individuals determine as necessities or luxuries was, first, context dependent and, moreover, that said necessities and luxuries were sex differentiated (although the latter was not formally tested). As suggested earlier, the trade-off

model functions on the basis that there are environmental constraints and that people are forced to make decisions prioritising the traits that are most important to derive the highest utility out of their choice. There is evidence to indicate that, in a context wherein individuals seek a long-term relationship, what women define as necessities and what men define as such are different, such that women determine social status to be a necessity, whereas men determine physical attractiveness to be a necessity (Li et al., 2002, 2007, 2011, 2013; Li & Kenrick, 2006). Li and colleagues (2002) explain that this could be due to the parental investment theory posited by Trivers (1972), whereby women, to briefly reiterate, require a man to provide them and their offspring with protection and resources, whilst men require access to fertile women. In juxtaposition, individuals in a short-term context (whether men or women) seem to converge onto what they deem a necessity, such that both men *and* women determine physical attractiveness to be a necessity. Of course, it is worth noting that status and resources as well as physical attractiveness are not the only necessities. Li and colleagues (2002) found that intelligence and kindness also are determined to be necessities by both women and men.

On the other hand, an example of unlimited budgets can be found in a study that was carried out by Edlund and Sagarin (2010). The authors presented individuals with both limited (budgeted) and unlimited (unbudgeted, simple rating) tasks to design their partners and to compare the results acquired from both budgets. The study they carried out showcased that each budget yielded different outcomes. They have found that the unlimited budget was better at assessing how individuals' mate choices are influenced by their perception of their mate value. That is, individuals who viewed themselves to possess higher mate value designed their partners with higher levels of traits that are desirable to them. This is, according to the authors, due to individuals with higher mate value being more demanding than others. On the other

hand, in the limited budgets, they found that, due to the restrictions placed on individuals, the influence of one's assessment of their mate value was constrained, and that it better predicted what individuals determined to be a necessity or a luxury. The authors explain that this is due to the limited budget placing all participants on equal footing, forcing individuals to be more critical of their choices and the traits to which they allocate their budgets.

1.6. Moderators

In this thesis, I have applied the budget-allocation method into my analysis. Furthermore, and to enhance my analysis, I coupled with the method a number of moderators to better understand how individuals and their backgrounds impact their assessment of necessities and luxuries. I now will introduce these moderators and briefly delineate them.

The first moderator I discuss in my thesis is the relationship status and number of partners individuals have had (in a long- or short-term relationship) and its effect on an individual's mate preferences. Brase and Guy (2004) describe in their paper that individuals in a long-term relationship rate their mate value higher relative to individuals who are not in a long-term relationship. The authors explain that this may be due to the fact that their ability to remain in a long-term relationship signals to them that they are a good partner and, thus, a desirable one. Another aspect pertaining to the number of partners an individual had and its impact on their mate preferences is *sociosexuality*. Sociosexuality refers to the individual differences in openness to having casual sex (Penke & Asendorpf, 2008). Csajbók and colleagues (2023, under review) found that the more sex partners an individual has had, the higher was their assessment of their mate value and, by extension, influenced their mate preferences. It was also found that individuals desiring a long-term relationships lowered their standards when it comes to certain characteristics, such as attractiveness or passion (Csajbók &

Berkics, 2017). These conclusions were also demonstrated by Jonason and colleagues (2015, 2020). They found that sociosexuality in individuals correlated with differences in their assessment of dealmakers and dealbreakers. It influenced an individual's interest in a prospective partner whether in a long- or short-term relationship such that, for instance, a person with higher sociosexuality may prioritise attractiveness in their pursuit of short-term relationships at the cost of other traits, such as warmth.

Education was another moderator studied in this thesis. Mafra and Lopez (2014) found that the educational background of an individual influenced their assessment of prospective partners (which, the authors note, may be related to higher education correlating with higher socioeconomic status). An area where education influences mate preferences is, for instance, in men of a lower educational background preferring women who contribute to the household income. Additionally, Luo (2017) discusses that individuals mating outcomes seem to be influenced by education through educational homogamy, whereby individuals of specific educational backgrounds seem to seek others of a similar educational background to theirs. Lastly, Buss and colleagues (2020) discuss that, amongst many variables (such as wealth or industriousness), men and women both value education.

Another moderator introduced was residence. There seems to be some indicative evidence that residence may influence the attributes that individuals prefer (and, by extension, their mate choices). Gonçalves and colleagues (2018) found in their study that residence impacted men and women's preferences. Although they found that men generally placed a premium on what they call the athletic dimension (which are the physical and reproductive qualities), and women on the accomplished dimension (i.e., resources), the authors noted that men's preferences in towns shifted towards a higher emphasis on the traditional dimension

(i.e., traits related to what is deemed traditionally accepted, such as a woman being a good house wife) whilst women's preferences shifted more towards the athletic dimension. This is in line with the theoretical foundation put forth by the trade-off model, whereby individuals become pickier as their environment is more constrained.

Mate value and self-assessment were also used as moderators in analysing individual differences and how they correlate with individual assessment of necessities and luxuries. Mate value was already delineated earlier in the introduction. To briefly reiterate, however, it was noted to impact mate preferences and choices. Csajbók and colleagues (2023) found that one's assessment of their physical attractiveness correlated positively with their short-term desirability and with their minimum standards (Csajbók et al., 2019).

Another moderator was age. Evidence towards age influencing individual mate preferences and choices is inconclusive. Buunk and colleagues (2002) did not find that age differences led to meaningful disparities in mate preferences. Bleske-Rechek and colleagues (2009) found that individual self-reported mating desires do not vary noticeably with age, corroborating the results presented by Buunk and colleagues (2002). However, it is worth noting that their study's age group was between 18 and 26 years old. On the other hand, however, Alterovitz and Mendelsohn (2009, 2011) have found that individuals across different ages remain stable with regards to their mate preferences. Notable differences across age categories seem to appear only in what the authors categorise as the "old-old" group. That is, individuals aged 75 and older. The authors discuss how members of the old-old group experienced a reduced interest in romantic and sexual activities and may be simply seeking companionship. Brumbaugh and Wood (2013) conducted a study on a group of people whose age ranged between 18 to 25 and found that as people age their mate preferences tend to place a

premium on communal traits, which is akin to what Alterovitz and Mendelsohn (2009, 2011) found in the old-old age category. The influence of age on individual mate preferences was not studied in a budgeted task and so, considering the theoretical background, that is, that as people age, their mate value should drop (as, for instance, older people are less fertile), perhaps the budget allocation method would yield results that give credence to the theory.

1.7. Research questions and hypotheses

With that said, the current paper sought to further examine whether or not individuals differ in their mate preferences and choices and, if so, what are the individual differences that lead to the individually-unique process of determining which traits people seek as necessities and which as luxuries. Additionally, this research aimed to determine which method is more useful when analysing individuals: the simple rating method, or the budget-allocation method. Therefore, and following the aforementioned rationale, the research questions underlying my research were: considering that Edlund and Sagarin (2010) noted differences between two methods to analyse individual differences, (1) will the simple rating method yield different results from the budget-allocation method? Additionally, with the knowledge that previous research (Li et al., 2002) demonstrated evidence to indicate that there are sex differences, my next question is: (2) will there be sex differences between individuals? (3) Will contextual differences that individuals are subjected to moderate their mate preferences and, by extension, their choices (Buss & Schmitt, 1993)? Next, and in following of previous researchers' steps (Luo, 2017; Vandenberg, 1972) (4) will demographic variables (such as education, residence, age, relationship status, number of partners) impact individual mate preferences? (5) Finally, building off previous research (Csajbók et al., 2023), will the mate value of individuals moderate their mate preferences?

Based on the research questions, the constructed hypotheses were as follows:

- H1.1: there will be sex differences in individuals' mate preferences.

- H1.2: I predict that individuals' mate preferences are moderated by contextual differences, that is, whether participants are evaluating short- vs long-term relationships.

- H1.3: relationship status will influence individuals' assessment of their mate preferences, expecting that coupled individuals will have higher standards.

- H1.4: as I expect that education will positively correlate with mate value and mate value will positively correlate with mate preferences, I also predict that education will positively correlate with mate preferences too.

- H1.5: I predict that an individual's place of residence will moderate individual mate preferences.

- H1.6: as I expect that age will negatively correlate with mate value and mate value will positively correlate with mate preferences, I also predict that age will correlate negatively with mate preferences too.

- H1.7: I predict that the self-assessment in a particular dealmaker or dealbreaker trait positively influences their preference of the same trait in a prospective partner.

- H1.8: sociosexuality will be a good predictor of individuals' mate preferences, such that an increase or decrease in number of partners will correlate with changes in individuals' mate preferences, and the correlation may be either positive or negative.

- H1.9: the simple rating method will yield results dissimilar to the budget-allocation method.

2. Methods

2.1. Participants

The current analysis was carried out on data collected by Csajbók and Berkics (2022). The sample comprised 1175 heterosexual participants from Hungary, with more than half (57%) being women, with a mean age of 23.38 years (SD = 5.34, between 18 and 45). Over half of the participants (51.4%) achieved secondary education, and 44.2% completed higher education. Approximately half of the participants (46%) resided in the capital, followed by 37.3% in a town, 10.7% in a village, and 6% abroad. More than half of the participants (57.4%) were in long-term relationships, while 9.5% were in short-term relationships. Five-hundred and fifty-six (of which 56% male) participants showed interest in short-term relationships.

2.2. Measures and procedure

The *budget allocation* method was the main instrument of measurement for this study. Simply put, it is a method whereby individuals are provided with a set of points (tokens, monetary amount, etc.) to allocate across a number of available traits presented to them. The budget is often limited, with a varying range (high or low), depending on the study. The current research had eight versions carried out (Table 1), four of which focused on the dealmaker and dealbreaker traits in a long-term relationship context and another four on short-term relationship context, however, only for those who displayed interest in them. In either contexts (short- or long- term), participants were presented with four budgets: two of them provided

participants with a higher number of tokens (42) and the other two provided them with a more limited number of tokens (21).

Participants in both short- and long- term contexts were either presented with seven dealmaker traits (warmth, attractiveness, status, stability, passion, intellect, and dominance; Csajbók & Berkics, 2017), or were given a list of dealbreaker traits (unambitious, hostile, filthy, arrogant, unattractive, clingy, and abusive; Csajbók & Berkics, 2022). A maximum of 10 points could be allocated into one trait, with 0 being the lowest. Pertaining to dealmakers, the more tokens invested in a trait meant that the prospective partner was more likely to have it, with 10 indicating that the prospective partner would certainly possess a given trait and 0 for lacking said trait completely. In contrast, with regards to dealbreakers, the more points invested in a trait, the less likely it would be that the prospective partner would have the trait in question, such that 10 means the partner will not have it, and 0 indicating that they will have it.

Table 1: The different versions of the budgeted task given to participants

	Phase 1			
Tokens	42	42	21	21
Context Factor	Long-term Dealmakers	Long-term Dealbreakers	Long-term Dealmakers	Long-term Dealbreakers
	Phase 2			
Tokens	42	42	21	21
Context Factor	Short-term Dealmakers	Short-term Dealbreakers	Short-term Dealmakers	Short-term Dealbreakers

Additionally, the Mate Value Scale (MVS; Edlund & Sagarin, 2014) was used as a measurement. The four items of the MVS were averaged. The four items were rated on a 1 (*extremely* undesirable) to 7 (*extremely* desirable) scale. Participants were also tasked to rate themselves on the dealmaker and dealbreaker traits on a 1 (*does not apply at all*) to 7 (*very much applies*) scale. Lastly, all the demographic variables in the current thesis (number of

long-term or casual partners, age, education, size of residence, relationship status) were measured in the original study.

2.3. Data Analysis

In the original study where the data is from (Csajbók & Berkics, 2022), determining which of the seven dealmaker or dealbreaker traits was necessary or a luxury was done through the budget allocation method. Li and colleagues (2002) first utilised this method in research. As explained, it achieves the intended objectives as follows: considering that a necessity is a trait which, as Li and colleagues delineate, people prioritise having a minimum of before investing into other traits and their spending on the same trait would not increase any further in higher budgets (since the minimum amount was met). Then if the amount of spending was *relatively* higher in the low budget than in the high budget, the trait was identified as a necessity. If the spending in the higher budget on a particular trait exceeded spending in the lower budgets, then it was a luxury. To compare the relative expenditure, the allocated tokens in the low budget were compared with the high minus low budget. In the present paper, this rationale was expounded upon, taking the previously acquired results (high minus low) and further subtracting them from the low budget scores, creating a *Δ score*. In this analysis, if the results yielded a negative delta score, then they would indicate a trait that is deemed a luxury. If the results yielded a positive delta score, then that would be a necessity (Figure 2).
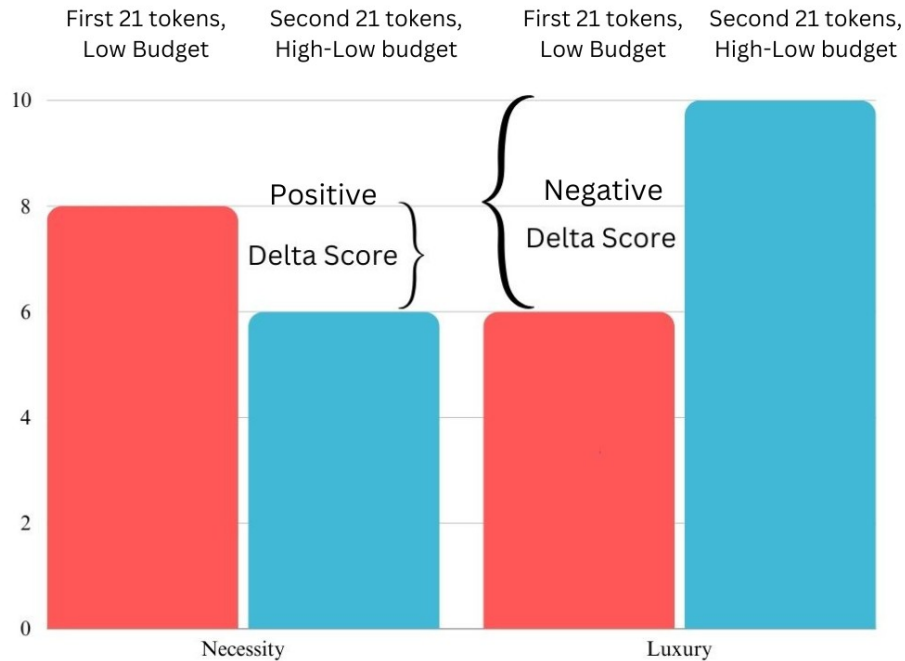
Figure 2. How Necessities and Luxuries Were Determined

After computing the delta scores, I continued by conducting independent samples *t*-tests to determine whether or not sex differences existed. The reason underlying the test was because in the original study, analysis of sex differences was not formally carried out. Thus, in order to appropriately determine whether or not sex differences existed between men and women in their assessment of a particular trait in a given context (whether or not it was a necessity or a luxury), a *t*-test comparing their means was in order.

Having done so, I carried out more independent samples *t*-tests that were sex disaggregated to compare participants who were either in a long-term or casual relationship at the time of their participation. Afterwards, I examined with Pearson correlations the moderation effect of residence, education, age, mate value, self-assessments in each trait, and number of long- and short-term partners on the delta scores across men and women in short-

and long-term contexts. The interpretation of the results was, for instance, if education correlated positively with the delta scores, then it would indicate that as education increases, a given trait would more likely be a necessity. If it correlates negatively, then more education may increase the chances of a particular trait being a luxury. Finally, I also correlated age and self-assessment with the simple ratings as well for purposes of establishing a comparison of the two methods. Since the overall sample size and the subsamples were all larger than n = 40, I used parametric tests everywhere (Ghasemi & Zahediasi, 2012).

3. Results

3.1. Sex differences

To determine whether or not a trait was a necessity, I first calculated the delta scores of dealmaker and dealbreaker traits by subtracting from the low-budget the (high – low) budget. Afterwards, I ran independent samples *t* tests in order to determine whether or not significant differences between the sexes can be identified across the dealmaker delta scores.

Table 2: Comparison of participants' short-term dealmaker delta scores between men and women

Short-term DM Δ		N	Mean	SD	t(df)	Cohen's D
Warmth Δ	Woman	242	-1.012	2.738	2.032(546.293)*	0.173
	Man	307	-1.541	3.352		
Attractive Δ	Woman	243	2.037	3.622	-6.643(548.296)***	0.563
	Man	311	4.267	4.272		
Status Δ	Woman	239	-1.218	2.820	0.258(546)	0.054
	Man	309	-1.282	2.919		
Intelligence Δ	Woman	242	-0.740	3.352	1.113(550)	0.096
	Man	310	-1.065	3.442		
Stable Δ	Woman	242	-1.045	2.787	3.339(547.181)**	0.284
	Man	308	-1.929	3.414		
Passion Δ	Woman	243	2.967	3.588	-1.963(550.999)	0.166
	Man	310	3.648	4.573		
Dominant Δ	Woman	243	-0.881	3.596	3.521(548)***	0.302
	Man	307	-1.954	3.515		

Note. Δ = low budget – (high – low).
* p < .05. ** p < .01. *** p < .001.

With regards to dealmakers in the short-term context, Table 1 highlights differences between the sexes. The largest effect size which the test yielded pertains to the Attractive Δ factor (t[548.296]= -6.643, p < .001, d = 0.563), with attractiveness being more valued by men than women, but both viewing it as a necessity. Additionally, the Dominant Δ factor was found to be statistically significantly different between the sexes, with it being less valuable for men than women (t[548]= 3.521, p < .001, d = 0.302), but a luxury for both. Albeit with a slightly smaller effect size, the Stable Δ factor (t[547.181]= 3.339, p < .01, d = 0.284) also was noted to be statistically significantly different but a luxury for both, with women valuing it more than men. The Warmth Δ factor, despite having smaller effect size than the aforementioned factors, was nonetheless statistically significantly different (t[546.293]= 2.032, p < .05, d = 0.173), being less important for men than women, but a luxury for both.

Table 3 showcases extant differences between the sexes also in dealmaker delta scores, however, this time, in the long-term context. The Dominant Δ factor's effect size was smaller in the long-term context than in the short-term one, yet still found to be statistically significant (t[1167]= 3.649, p < .001, d = 0.215), being less important for men than women, but nonetheless a luxury for both. A factor whose effect size slightly increased between the short- and long-term contexts was the Attractive Δ factor (t[936.701]= 9.743, p < .001, d =0.584), however, in the long-term, it was still a necessity for men but a luxury for women. With regards to the Warmth Δ factor, it was found to be a necessity for both men and women, and its effect size remained relatively similar, making the contextual difference negligible (t[1172]= 2.671, p < .01, d = .157). Finally, the effect size of the Stable Δ factor, as well as its statistical significance, was found to be less pronounced when situated in the long-term context (t[1167]= 2.005, p < .05, d

= 0.118). It was found to be a luxury for both, however, it remains more important for women than men.

Table 3: Comparison of participants' long-term dealmaker delta scores between men and women

Long-term DM Δ		N	Mean	SD	t(df)	Cohen's D
Warmth Δ	Woman	669	1.123	3.005	2.671(1172)**	0.157
	Man	505	0.640	3.149		
Attractive Δ	Woman	666	-0.517	2.314	-9.743(936.701)***	0.584
	Man	504	1.020	2.912		
Status Δ	Woman	658	-0.489	2.353	1.298(1156)	0.077
	Man	500	-0.668	2.274		
Intelligence Δ	Woman	669	0.629	2.739	0.87(1169)	0.051
	Man	502	0.486	2.854		
Stable Δ	Woman	667	-0.196	2.683	2.005(1167)*	0.118
	Man	502	-0.526	2.907		
Passion Δ	Woman	667	-0.006	2.455	-0.873(998.076)	0.052
	Man	503	0.131	2.806		
Dominant Δ	Woman	665	-0.403	2.692	3.649(1167)***	0.215
	Man	504	-0.990	2.766		

Note. Δ = low budget – (high – low).
* p < .05. ** p < .01. *** p < .001.

Next, I ran *t* tests to identify any potentially extant sex differences across dealbreaker delta scores. The test results across dealbreaker delta scores in the short-term context yielded the following results: the Abusive Δ factor had the highest effect size and was statistically significant and was found to be a necessity to women in contrast to men ($t[549]= 8.395$, $p < .001$, $d = 0.717$). Ugly Δ scores yielded a smaller effect size but the differences were statistically significant, with men caring for it more than the opposite sex, but both deemed it a necessity. Bad hygiene Δ scores, while its effect size was even smaller than the Ugly Δ scores, was nevertheless statistically significant and, similarly to the aforementioned Ugly variable, more men than women valued it, but it also was deemed as a necessity by both sexes ($t[547.938]= -2.843$, $p < .01$, $d = 0.241$). Finally, amongst the statistically significant comparisons, the Loser Δ factor had the smallest effect size ($t[544]= -2.131$, $p < .05$, $d = 0.183$),

and, although was found to be a luxury by both sexes, it was more valued by men than women (Table 4).

Table 4: Comparison of participants' short-term dealbreaker delta scores between men and women

Short-term DB Δ		N	Mean	SD	t(df)	Cohen's D
Hostile Δ	Woman	240	-1.279	3.411		
	Man	309	-1.770	3.923	1.566(540.054)	0.134
Ugly Δ	Woman	242	1.442	3.774		
	Man	311	3.453	4.597	-5.648(549.41)***	0.495
Loser Δ	Woman	241	-1.510	2.934		
	Man	305	-0.974	2.912	-2.131(544)*	0.183
Bad hygiene Δ	Woman	243	2.556	4.050		
	Man	311	3.621	4.758	-2.843(547.938)**	0.241
Arrogant Δ	Woman	240	-1.346	2.932		
	Man	309	-1.625	3.432	1.025(542.041)	0.087
Clingy Δ	Woman	240	-1.100	2.991		
	Man	306	-1.265	3.537	0.577(544)	0.050
Abusive Δ	Woman	243	1.424	4.052		
	Man	308	-1.364	3.720	8.395(549)***	0.717

Note. Δ = low budget – (high – low).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Finally, Table 5 sheds light on the extant differences between men and women in dealbreaker delta scores in the long-term context. In the long-term context, the Abusive Δ scores indicated that women found it to be a necessity while men deemed it a luxury. Furthermore, it showcased that it retained both a similar statistical significance as well as a high effect size ($t[1161.929]= 11.977$, $p < .001$, $d = 0.697$). The Ugly Δ factor was more valued by men than women and remained a necessity for men in contrast to women (for whom it became a luxury), and retained a high significance level as well as a similar effect size ($t[914.735]= -8.306$, $p < .001$, $d = 0.499$). Additionally, the Loser Δ factor kept its low significance and small effect size as in the short-term context ($t[1167]= 2.277$, $p < .05$, $d = 0.135$) yet in the long-term context, was found to be more important to women (but was a luxury for both sexes). A notable difference between short- and long-term contexts was found in the Bad hygiene Δ factor, where

its effect size increased (t[1171]= -4.012, p < .001, d = 0.317). Similarly to the short-term

context, however, it was deemed a necessity by men and women but was found to be more

valued by men.

Table 5: Comparison of participants' long-term dealbreaker delta scores between men and women

Long-term DB Δ		N	Mean	SD	t(df)	Cohen's D
Hostile Δ	Woman	665	-0.301	3.171	-1.341(1166)	0.079
	Man	503	-0.048	3.222		
Ugly Δ	Woman	663	-0.585	2.711	-8.306(914.735)***	0.499
	Man	505	0.990	3.545		
Loser Δ	Woman	666	-0.728	2.939	2.277(1167)*	0.135
	Man	503	-1.123	2.934		
Bad hygiene Δ	Woman	668	0.945	3.601	-4.012(1171)***	0.317
	Man	505	1.810	3.732		
Arrogant Δ	Woman	664	-0.908	2.827	-0.835(1021.387)	0.050
	Man	504	-0.760	3.131		
Clingy Δ	Woman	653	-0.708	2.635	-0.044(1145)	0.003
	Man	494	-0.700	2.828		
Abusive Δ	Woman	669	2.425	3.969	11.977(1161.926)***	0.697
	Man	505	-0.115	3.288		

Note. Δ = low budget – (high – low).
* p < .05. *** p < .001.

3.2. Relationship status

After running the previous t tests and establishing that sex differences do exist, I sought

to identify (in men and women independently) whether or not the type of relationship a person

is in influences their delta scores in the short-term context. The tests for the influence of casual

relationship experience on women's short-term dealmaker delta scores also did not yield any

significant result. However, relatively speaking, the Dominant Δ factor had the highest effect

size (d = 0.315), with women not in a casual relationship viewing it as a luxury. Another

noteworthy example was the Intelligence Δ factor which was less valued by women in a casual

relationship (d = -0.230), but was seen as a luxury for both groups of women. For more details,

refer to Supplementary Table 1.

With regards to dealbreaker scores, again, there was no significant influence of casual relationship experience on the dealbreaker scores in the short-term context. One notable example to be mentioned, with a moderate effect size, was the Ugly Δ factor, with women in a casual relationship, similarly to men, valuing it more, despite it being a necessity for both groups of women ($d = 0.180$). For more, see Supplementary Table 2.

The *t*-tests comparing men's delta scores who are either in a casual relationship or otherwise in long-term dealbreaker and dealmaker scores yielded no significant results. With regards to casual relationship experience on dealmaker scores in the short-term context, no significant results were found. However, to be noted was the Intelligence Δ factor with a relatively moderate effect size, being a luxury for both groups of men, with men in a casual relationship valuing it less ($d = -0.241$). Additionally, the Warmth Δ factor was deemed a luxury by both groups of men, but was more valued by men who were not in a casual relationship ($d = -0.207$). For more, see Supplementary Tables 3.

Table 6: Comparison of men's short-term dealbreaker delta scores between those in a casual relationship or not

Men	Casual	N	Mean	SD	t(df)	Cohen's D
			Short-term			
Hostile Δ	Yes	55	-2.67	3.935	-1.879(78.67)	-0.281
	No	254	-1.57	3.901		
Ugly Δ	Yes	55	4.95	4.700	2.612(76.948)*	0.398
	No	256	3.13	4.520		
Loser Δ	Yes	52	-0.79	4.230	0.367(58.955)	0.077
	No	253	-1.01	2.569		
Bad hygiene Δ	Yes	55	3.82	5.309	0.311(72.777)	0.050
	No	256	3.58	4.642		
Arrogant Δ	Yes	54	-1.72	3.744	-0.215(72.308)	-0.034
	No	255	-1.60	3.370		
Clingy Δ	Yes	55	-1.62	3.788	-0.775(75.294)	-0.122
	No	251	-1.19	3.483		
Abusive Δ	Yes	53	-1.53	3.462	-0.374(79.918)	-0.053
	No	255	-1.33	3.777		

Note. Δ = low budget – (high – low).
* p < .05.

Next, dealbreakers in the short-term context were analysed. Table 6 shows that the only notable difference was in the Ugly Δ factor ($t[76.948]= 2.612, p < .05, d = 0.398$). While it was a necessity for both men who were in a casual relationship or otherwise, it was more valued by men in a casual relationship.

Table 7: Comparison of women's long-term dealmaker delta scores between those in a long-term relationship or not

Women	long-term	N	Mean	SD	t(df)	Cohen's D
			Long-term			
Warmth Δ	Yes	452	1.34	2.933	2.666(667)**	0.220
	No	217	0.68	3.109		
Attractive Δ	Yes	449	-0.62	2.202	-1.720(664)	-0.142
	No	217	-0.29	2.521		
Status Δ	Yes	446	-0.49	2.375	0.009(656)	0.001
	No	212	-0.49	2.311		
Intelligence Δ	Yes	452	0.45	2.789	-2.403(667)*	-0.199
	No	217	1.00	2.601		
Stable Δ	Yes	452	0.06	2.699	3.574(665)***	0.296
	No	215	-0.73	2.574		
Passion Δ	Yes	451	-0.11	2.433	-1.562(665)	-0.129
	No	216	0.21	2.492		
Dominant Δ	Yes	449	-0.46	2.742	-0.801(663)	-0.066
	No	216	-0.28	2.588		

Note. Δ = low budget – (high – low).
* p < .05. ** p < .01. *** p < .001.

Having carried out the aforementioned comparisons, I then ran *t* tests to examine the influence the participants' long-term relationship experience had on their scores (Table 7). With regards to the influence of long-term relationship experience in women on dealmaker scores in the short-term context, there were no significant results. The following Table 6 showcases the long-term relationship experience's influence on long-term dealmaker scores in women. Of note was the Stable Δ factor ($t[665]= 574, p < .001, d = 0.296$), with women not in long-term relationships deeming it a luxury. Another noteworthy observation was the Warmth Δ factor.

Women who were either in a long-term relationship or otherwise viewed it as a necessity, but women in a long-term relationship valued it more ($t[667]$= 2.666, p < .01, d = 0.220).

The influence of long-term relationship experience on women's dealbreaker delta scores was analysed. Women's short-term dealbreaker scores were found not to be significantly impacted in any of the factors by their long-term relationship experience. In the long-term context (Table 8), two notable observations were found. First, the Bad hygiene Δ scores were found to be a necessity for both women in a long-term relationship or otherwise, but women in a long-term relationship placing less importance on it ($t[666]$= -3.123, p < .01, d = -0.259). Second, the Clingy Δ factor was also seen as a luxury by both groups of women, however, women who were not in a long-term relationship valued it less ($t[651]$= 2.935, p < .01, d = 0.245).

Table 8: Comparison of women's long-term dealbreaker delta scores between those in a long-term relationship or not

Women	Long-term	N	Long-term Mean	SD	t(df)	Cohen's D
Hostile Δ	Yes	449	-0.37	3.222	-0.808(663)	-0.067
	No	216	-0.16	3.066		
Ugly Δ	Yes	450	-0.58	2.834	0.133(661)	0.011
	No	213	-0.61	2.437		
Loser Δ	Yes	452	-0.69	2.983	0.484(664)	0.040
	No	214	-0.81	2.849		
Bad hygiene Δ	Yes	453	0.65	3.613	-3.123(666)**	-0.259
	No	215	1.57	3.501		
Arrogant Δ	Yes	452	-0.90	2.969	0.043(662)	0.004
	No	212	-0.92	2.504		
Clingy Δ	Yes	441	-0.50	2.823	2.935(651)**	0.245
	No	212	-1.14	2.135		
Abusive Δ	Yes	453	2.46	4.068	0.368(667)	0.030
	No	216	2.34	3.761		

Note. Δ = low budget – (high – low).
** p < .01.

Finally, the influence of long-term relationship experience men's scores was examined. There were no significant results when analysing the influence of long-term relationship

experience on short-term dealbreaker scores. In the long-term dealbreaker scores (Table 9), only two noteworthy findings were observed. Firstly, the Abusive Δ factor had a relatively high effect size (t[503]= 3.121, $p < .01$, $d = 0.280$), with men in long-term relationships viewing it as a necessity. Secondly, the Arrogant Δ factor was seen as a luxury by both groups of men, but men in a long-term relationship valued it less (t[502]= -2.334, $p < .05$, $d = -0.210$).

Table 9: Comparison of men's long-term dealbreaker delta scores between those in a long-term relationship or not

Men	Long-term	N	Long-term Mean	SD	t(df)	Cohen's D
Hostile Δ	Yes	221	-0.12	3.139	-0.458(501)	-0.041
	No	282	0.01	3.290		
Ugly Δ	Yes	222	1.01	3.280	0.106(503)	0.010
	No	283	0.98	3.746		
Loser Δ	Yes	222	-1.19	2.659	-0.447(501)	-0.040
	No	281	-1.07	3.139		
Bad hygiene Δ	Yes	222	1.68	3.446	-0.667(503)	-0.060
	No	283	1.91	3.944		
Arrogant Δ	Yes	221	-1.13	2.934	-2.334(502)*	-0.210
	No	283	-0.47	3.252		
Clingy Δ	Yes	218	-0.58	2.484	0.822(492)	0.075
	No	276	-0.79	3.073		
Abusive Δ	Yes	222	0.40	3.169	3.121(503)**	0.280
	No	283	-0.52	3.329		

Note. Δ = low budget – (high – low).
* $p < .05$. ** $p < .01$.

With regards to the dealmaker scores, there were no noteworthy findings when analysing the influence of long-term relationship experience on short-term dealmakers. In the long-term context, results were not significant. Despite that, there were two results with relatively notable effect sizes: first, the Passion Δ scores ($d = 0.158$) indicated that men in a long-term relationship viewed it as a necessity. Secondly, the Attractive Δ scores ($d = -0.151$) showcased that it was a necessity for both groups of men, with men in a long-term relationship viewing it as less important. For more, see Supplementary Table 4.

3.3. Demographic variables

Having run the previous *t* tests and identified that differences between the sexes do exist across both dealmaker and dealbreaker scores in different relationship contexts, I then examined the two sexes separately for further moderation effects. I began by analysing the moderating effect residence had on women. In the short-term context, although not statistically significant, the Intelligence Δ factor was found to have the highest positive correlation amongst dealmaker factors in the short-term context ($r = .113$). In the long-term context, a statistically significant but weak positive correlation has been found with Warmth Δ ($r = .081, p < .05$), and a weak negative effect was noted in Attractive Δ ($r = -.090, p < .05$). Residence had no effect on women's dealbreaker delta scores, neither in short- nor in long-term contexts. See Supplementary Table 5.

In men, with regards to dealmakers, residence had a statistically significant and positive influence on the scores of the Intelligence Δ factor ($r = .134, p < .05$), however, only in the short-term context. No other statistically significant effect had been found. In relation to dealbreakers, only Bad hygiene Δ was impacted by residence slightly ($r = .960, p < .05$), but the effect was found to be weak and only in the long-term context. See Supplementary Table 6.

The moderation effect that education had on the scores had also been analysed. In women, and particularly in dealmaker delta scores, education was found to have a very weak negative correlation with the Attractive Δ scores in the short-term context ($r = -.128, p < .05$). On the other hand, in dealbreaker delta scores, a statistically significant but very weak positive correlation was found with the Abusive Δ factor, however, only in the short-term context ($r = .137, p < .05$). Finally, although it was not found to be statistically significant, education had a

weak negative correlation with the Hostile Δ factor in the short-term context ($r = -.106$). Refer to Supplementary Table 7.

In men, education had no statistically significant impact on any of the dealmaker delta scores in either contexts. On the other hand, in the long-term context, education had a very weak positive correlation with Bad hygiene Δ scores ($r = .127$, $p < .01$) and also a very weak positive correlation with Abusive Δ ($r = .119$, $p < .01$) which stands in contrast to the effect it has on the same factor in women which was only found in the long-term context. Refer to Supplementary Table 8.

To further analyse the individual differences amongst the sexes, I tested the moderation effect of the number of partners women had, either long- or short-term partners, on women's scores across both dealmaker and dealbreaker delta scores in short- and long- term contexts. Although only barely statistically significant, the number of long-term partners a woman had had a very weak positive correlation with their rating of the Warmth Δ factor in the short-term context ($r = .134$, $p < .05$; Table 10). The effect the number of long-term partners women had on the same factor in the long-term context was found to be negligible.

With regards to dealbreakers, the number of long-term partners a woman had had a very weak negative correlation with her ratings of the Abusive Δ factor in the short-term context($r = -.102$), although it was not found to be statistically significant. On the other hand, however, in the long-term context, long-term relationship experience maintained the very weak negative correlation with the Abusive Δ factor, but was statistically significant ($r = -.102$, $p < .01$). The number of long-term partners women had had neither statistically significant nor an interpretable effect size on their delta scores, both short- and long- term.

The influence of the number of short-term partners women had on dealmaker and dealbreaker delta scores was also analysed. Although not statistically significant, it did negatively correlate with ratings of the Status Δ factor with a very weak effect ($r = -.112$) in the short-term context. When correlating it in the long-term context, the short-term relationship experience was found to positively (and with a very weak effect) correlate with the same Status Δ factor ($r = .103$, $p < .01$). Although the effect was very weak, the Stable Δ factor was negatively correlated in the long-term context with the short-term relationship experience ($r = -.092$, $p < .05$). With regards to dealbreakers delta scores, none of them were correlated with the short-term relationship experience that women had was noteworthy in neither the short- nor the long-term dealbreakers.

Table 10: Correlation between long- and short-term relationship experience and delta scores in women in short- and long- term dealmaker and dealbreaker factors

Women		N of long-term partners				N of short-term partners			
		Short		Long		Short		Long	
Dealmaker Δ	Dealbreaker Δ	DM	DB	DM	DB	DM	DB	DM	DB
Warmth Δ	Hostile Δ	.134*	.015	-.071	-.010	-.078	.052	-.050	.016
Attractive Δ	Ugly Δ	-.041	.008	.022	.012	.005	.020	-.003	.031
Status Δ	Loser Δ	-.086	.037	.051	.085*	-.112	-.047	.103**	.013
Intelligence Δ	Bad hygiene Δ	.004	.019	-.018	.003	.002	.022	-.006	.009
Stable Δ	Arrogant Δ	.040	-.043	.030	-.011	-.014	.038	-.092*	-.057
Passion Δ	Clingy Δ	-.004	.067	.029	.031	.061	-.016	.041	.038
Dominant Δ	Abusive Δ	-.004	-.102	.003	-.102**	.101	-.076	.035	-.038

Note. DM = dealmaker. DB = dealbreaker. Δ = low budget – (high – low).
* p < .05. ** p < .01.

Relationship experience's influence was then analysed in men (Table 11). In the short-term context, the number of long-term partners did not in a statistically significant way correlate with the factors. In the long-term context, the Status Δ factor was positively correlated with men's ratings, but the effect was very weak ($r = .097$, $p < .05$).

In relation to dealbreakers, the number of long-term partners did not have any meaningful effect size nor any statistically significant correlation with the dealbreaker delta scores in the short-term context. In the long-term context, only the Attractive Δ factor was positively correlated with the long-term relationship experience, but the effect size was very weak ($r = .089, p < .05$).

In the short-term context, the number of short-term partners did not influence any dealmaker delta scores in a way that is statistically significant or with a high enough of an effect size. The image slightly changes when analysing its influence on long-term dealmaker delta scores. The Warmth Δ was found to correlate with a very weak negative effect ($r = -.116, p < .01$). Status Δ positively correlated with short-term relationship experience and had a very weak effect ($r = .135, p < .01$). Finally, the Passion Δ factor was also positively correlated in the long-term context with a very weak effect ($r = .107, p < .05$).

Lastly, the influence of the number of short-term partners on dealbreaker delta scores was examined. In the short-term context, Ugly Δ was positively correlated with short-term relationship experience and had a very weak effect size ($r = .145, p < .05$). Loser Δ factor had a positive correlation and also had a very weak effect size ($r = .133, p < .05$). When examining the influence of short-term relationship experience in the long-term context, it had a very weak negative correlation with Hostile Δ ($r = -.121, p < .01$), while the Ugly Δ was found to be positively correlated with the short-term relationship experience, yet with a very weak effect size ($r = .122, p < .01$).

Table 11: Correlation between long- and short-term relationship experience and delta scores in men in

short- and long- term dealmaker and dealbreaker factors								
Men		N of long-term partners				N of short-term partners		
		Short		Long		Short		Long	
Dealmaker Δ	Dealbreaker Δ	DM	DB	DM	DB	DM	DB	DM	DB
Warmth Δ	Hostile Δ	-.029	-.001	-.054	-.018	-.080	-.077	-.116**	-.121**
Attractive Δ	Ugly Δ	-.027	.051	-.037	.089*	.016	.145*	-.020	.122**
Status Δ	Loser Δ	.044	.049	.097*	-.028	.052	.133*	.135**	-.022
Intelligence Δ	Bad hygiene Δ	-.039	-.050	-.078	.021	-.063	-.068	-.015	.066
Stable Δ	Arrogant Δ	-.051	-.032	-.016	-.025	-.019	-.012	-.051	-.006
Passion Δ	Clingy Δ	.026	.011	.067	-.008	.069	-.006	.107*	-.025
Dominant Δ	Abusive Δ	.111	.001	.041	-.040	-.003	-.096	-.007	-.030

Note. Δ = low budget – (high – low).
* p < .05. ** p < .01.

Next, I sought to identify whether or not age has a moderation effect on women's delta scores in different contexts. There was only one finding that had an interpretable effect size and was statistically significant. That being the long-term Warmth Δ factor, with age having a very weak negative correlation with it ($r = -.118$, $p < .01$). Although it was not statistically significant, the short-term Status Δ had a similar very weak negative correlation ($r = -.120$) with age (Table 12).

Table 12 Moderation effect of age on delta scores among women in short- and long-term across dealmaker and dealbreaker factors

		Women				
Dealmaker Δ		Context				Dealbreaker Δ
	Short	Long	Short	Long		
Warmth Δ	.039	-.118**	.014	.011		Hostile Δ
Attractive Δ	-.071	-.041	.028	.014		Ugly Δ
Status Δ	-.120	.036	-.025	.011		Loser Δ
Intelligence Δ	.052	.070	-.010	-.074		Bad hygiene Δ
Stable Δ	.033	.015	-.092	-.004		Arrogant Δ
Passion Δ	.025	.012	.000	.067		Clingy Δ
Dominant Δ	.018	.057	.061	-.014		Abusive Δ

Note. Δ = low budget – (high – low).
** p < .01.

The moderation effects of age on dealmaker and dealbreaker delta scores were examined in men as well (Table 13). Only three noteworthy results were observed. First, age

had a very weak positive effect on the Status Δ scores in the long-term context ($r = .100$, p

$< .05$). No other significant moderation effect on dealmaker scores was found. In dealbreakers,

age had a very weak negative effect on the Bad hygiene Δ scores in the short-term context ($r =$

$-.116$, $p < .05$). Lastly, age had a very weak positive moderation effect on the Abusive factor (

$r = .094$, $p < .05$ in the long-term context).

Table 13: Moderation effect of age on delta scores among men in short-
and long-term across dealmaker and dealbreaker factors

	Men				
Dealmaker Δ		Context			Dealbreaker Δ
	Short	Long	Short	Long	
Warmth Δ	-.016	-.048	.074	.012	Hostile Δ
Attractive Δ	-.037	.001	-.062	-.031	Ugly Δ
Status Δ	.028	.100*	.063	.016	Loser Δ
Intelligence Δ	-.040	-.074	-.116*	-.021	Bad hygiene Δ
Stable Δ	.042	.014	-.004	-.064	Arrogant Δ
Passion Δ	.004	.057	.010	.015	Clingy Δ
Dominant Δ	.011	-.037	.087	.094*	Abusive Δ

Note. Δ = low budget – (high – low).
* $p < .05$.

Afterwards, I sought to analyse the correlation between age and ideal preferences (i.e.,

simple partner preference ratings instead of delta scores) in both men and women across

dealmaker and dealbreaker factors in both contextual differences (Table 14). Firstly, in women,

and in dealmaker scores in particular, only two noteworthy findings were observed. First, age

correlated very weakly and positively with the Status ideal in the long-term context ($r = .186$,

$p < .001$). Secondly, age correlated negatively with the Warmth ideal in the long-term context

but the effect was found to be very weak ($r = -.103$, $p < .01$). In women's dealbreaker

correlation, there was only one notable finding. In the long-term context, age correlated very

weakly and positively with the Clingy ideal ($r = .108$, $p < .01$).

For men, there were several results with a very weak effect in dealmakers. Age had a

negative correlation with the Attractive ideal in the short-term context ($r = -.196$, $p < .001$).

Furthermore, age correlated positively with the Intelligence ideal in the short-term context ($r =$ .144, $p < .05$). Another positive correlation was found between age and the Stable ideal in the long-term context ($r = .109$, $p < .05$). Finally, age correlated negatively with the Warmth ideal in the long-term context ($r = -.102$, $p < .05$).

With regards to dealbreakers, in the short-term context, age correlated positively with the Hostile ideal, although very weakly ($r = .189$, $p < .001$). Age also correlated very weakly and positively with the Arrogant ideal in the short-term context ($r = .167$, $p < .01$). Furthermore, the Abusive ideal, similarly to the previous ones, also correlated very weakly and positively with age ($r = .149$, $p < .01$). Lastly, in the long-term context, age correlated positively with the Clingy ideal, yet the effect was very weak ($r = .116$, $p < .01$).

Table 14: Correlation between age and ideal preferences in short- and long-term across dealmaker and dealbreaker factors

Dealmaker					Dealbreaker
			Men		
			Context		
	Short	Long	Short	Long	
Warmth	-.005	-.102*	.189***	-.012	Hostile
Attractive	-.196***	.071	-.055	.106*	Ugly
Status	-.073	.037	.078	.050	Loser
Intelligence	.144*	.012	.033	.056	Bad hygiene
Stable	-.040	.109*	.167**	.095*	Arrogant
Passion	.102	.029	-.059	.116**	Clingy
Dominant	-.056	-.084	.149**	.065	Abusive
			Women		
Dealmaker			Context		Dealbreaker
	Short	Long	Short	Long	
Warmth	-.037	-.103**	.016	.085*	Hostile
Attractive	-.030	-.049	-.116	.028	Ugly
Status	.020	.186***	.097	.088*	Loser
Intelligence	-.060	.020	.089	.094*	Bad hygiene
Stable	.046	.020	.120	.085*	Arrogant
Passion	-.035	.070	-.057	.108**	Clingy
Dominant	-.090	-.061	.087	.026	Abusive

* $p < .05$. ** $p < .01$. *** $p < 0.001$.

3.4. Mate value

Next, I correlated mate value with the dealmaker and dealbreaker delta scores. In women, only one noteworthy finding was observed: the Abusive Δ scores in the short-term context negatively correlated with mate value with a very weak effect size ($r = -.171, p < .01$). There were no significant correlations in long-term dealbreaker delta scores, or in either short- or long-term dealmaker delta scores (Table 15).

Table 15: Correlation between mate value and delta scores in short- and long- term dealmaker and dealbreaker factors in women

Women	Short	Long
MVS × Dealmaker Δ		
Warmth Δ	.086	.015
Attractive Δ	.105	.009
Status Δ	-.017	.017
Intelligence Δ	-.079	-.036
Stable Δ	-.020	.001
Passion Δ	.062	.020
Dominant Δ	-.102	-.006
MVS × Dealbreaker Δ		
Hostile Δ	-.038	-.013
Ugly Δ	.075	-.037
Loser Δ	-.051	.056
Bad hygiene Δ	.074	.036
Arrogant Δ	.072	-.008
Clingy Δ	.063	.016
Abusive Δ	-.171**	-.042

Note. Δ = low budget – (high – low). MVS = Mate Value Scale.
** p < .01.

With regards to men, there were more notable findings in contrast to women (Table 16). Firstly, mate value had a very weak negative correlation with the Stable Δ scores in the short-term context ($r = -.155, p < .01$). In the long-term context, Passion Δ scores had a very weak positive correlation with mate value ($r = .154, p < .01$). The Stable Δ scores maintained the negative correlation in the long-term context, with a very weak effect size ($r = -.091, p < .05$).

In relation to dealbreakers, in the short-term context, only the Ugly Δ factor had a noteworthy result and correlated positively, although with a very weak effect size, with mate value ($r = .145$, $p < .05$). In the long-term context, the Ugly Δ factor correlated positively again with mate value, but the effect size was similar and so, the contextual difference was negligible ($r = .150$, $p < .01$). Finally, the Arrogant Δ factor correlated negatively in the long-term context with mate value, although the effect size was very weak ($r = -.093$, $p < .05$).

Table 16: Correlation between mate value and delta scores in short- and long- term dealmaker and dealbreaker factors in men

Men	Short	Long
MVS × Dealmaker Δ		
Warmth Δ	-.069	-.070
Attractive Δ	.071	.020
Status Δ	.080	.036
Intelligence Δ	-.046	-.037
Stable Δ	-.155**	-.091*
Passion Δ	.101	.154**
Dominant Δ	.012	.008
MVS × Dealbreaker Δ		
Hostile Δ	-.097	-.067
Ugly Δ	.145*	.150**
Loser Δ	.109	.044
Bad hygiene Δ	.011	-.013
Arrogant Δ	-.095	-.093*
Clingy Δ	-.064	.007
Abusive Δ	-.050	-.034

Note. Δ = low budget – (high – low). MVS = Mate Value Scale.
* $p < .05$. ** $p < .01$.

3.5. Self-assessment

In identifying the influence of individual differences on delta scores, I next correlated individuals' self-assessment scores with corresponding delta scores in each factor (Table 17). In women, and in the short-term context, there were two notable results. The self-assessment of an individual had a very weak positive correlation with the Passion Δ scores ($r = .187$, $p < .01$).

The second one was the very weak positive correlation between self-assessment and the Intelligence Δ scores ($r = .157$, $p < .05$).

In the long-term context, self-assessment correlated very weakly and positively with the Warmth Δ scores ($r = .125$, $p < .01$). Self-assessment also positively correlated with the Passion Δ scores but the effect was very weak ($r = .120$, $p < .01$). Finally, Intelligence Δ had a very weak positive correlation with self-assessment ($r = .115$, $p < .01$).

With regards to dealbreakers, no result in short-term dealbreakers was found to be significant or with a high enough effect size. In the long-term context, there was only one result with a very weak effect size. Self-assessment correlated negatively with the Clingy Δ scores ($r = -.125$, $p < .01$). No other noteworthy result was found in the long-term dealbreakers.

Table 17: Correlation between self-assessment across dealmaker and dealbreaker factors in short- and long-term and the corresponding delta scores among women

Women		Context			
Dealmakers Δ × Self-Assessment	Long	Short	Long	Short	Dealbreakers Δ × Self-Assessment
Warmth	.125**	.041	-.080*	.001	Hostile
Attractive	.043	.024	.042	-.021	Ugly
Status	.042	-.009	.004	-.029	Loser
Intelligence	.115**	.157*	.019	.032	Bad Hygiene
Passion	.120**	.184**	.043	.094	Arrogant
Stable	.087*	.046	-.125**	.032	Clingy
Dominant	.011	.087	.048	.005	Abusive

* $p < .05$. ** $p < .01$.

I then correlated men's self-assessment with their dealmaker and dealbreaker delta scores (Table 18). In the short-term context, the most important observations were as follows: the Passion Δ scores retained a very weak positive correlation with self-assessment, but dropped in both effect size and statistical significance ($r = .137$, $p < .05$). The Warmth Δ factor, in contrast to the long-term context, was found to have a very weak positive correlation ($r = .128$, $p < .05$). In the long-term context, there was found a weak but positive correlation

between self-assessment and the Passion Δ factor ($r = .211$, $p < .001$). Additionally, Intelligence Δ correlated positively with an individual's self-assessment, although the effect was weak ($r = .201$, $p < .001$).

In dealbreakers, no notable correlation in short-term Δ scores was found. In the long-term context, two noteworthy findings were observed. First, self-assessment had a positive correlation with the Arrogant Δ scores, but the effect was very weak ($r = .144$, $p < .01$). Second, the Hostile Δ scores had a very weak negative correlation with self-assessment ($r = -.132$, $p < .01$).

Table 18: Correlation between self-assessment across dealmaker and dealbreaker factors in short- and long-term and the corresponding delta scores among men

Men		Context			
Dealmakers Δ × Self-Assessment	Long	Short	Long	Short	Dealbreakers Δ × Self-Assessment
Warmth	.023	.128*	-.132**	.085	Hostile
Attractive	.087	.037	.083	.009	Ugly
Status	.095*	-.040	.014	-.061	Loser
Intelligence	.201***	-.037	-.015	-.009	Bad Hygiene
Passion	.211***	.137*	.144**	.002	Arrogant
Stable	.042	-.072	-.049	-.059	Clingy
Dominant	.036	-.026	.026	.021	Abusive

Note. Δ = low budget – (high – low).
* p < .05. ** p < .01. *** p < .001

I further correlated self-assessment with participants' ideal preferences. Amongst women, and in the short-term context, multiple observations were made. The Passion factor was found to have a moderate a positive correlation ($r = .426$, $p < .001$). The Attractive factor had a weak positive ($r = .313$, $p < .001$). The Stable factor was noted to have a weak positive correlation ($r = .288$, $p < .001$). The Warmth factor had a very weak positive correlation ($r = .183$, $p < .01$). Lastly, the Dominant factor had a very weak, positive effect ($r = .138$, $p < .05$; Table 19).

In the long-term context, the image slightly changes. For instance, Passion had a positive correlation with self-assessment with a slightly higher moderate effect ($r = .555$, $p < .001$). Warmth also had a positive correlation with self-assessment, but the effect size increased from very weak to moderate ($r = .415$, $p < .001$). Next, Intelligence had a weak positive correlation ($r = .390$, $p < .001$). Status was found to correlate positively with self-assessment, although the effect was found to be weak ($r = .342$, $p < .001$). Attractive was also found to have a weak positive correlation similar to the short-term context, rendering the difference negligible ($r = .307$, $p < .001$). The Stable factor maintained a weak positive correlation ($r = .206$, $p < .001$). The Dominant factor, also had a very weak positive correlation, making the contextual difference trivial ($r = .188$, $p < .001$).

With regards to dealbreakers, the findings were more limited and only three were of note. First, in the short-term context, Hostile maintained a negative correlation, but the effect dropped to weak ($r = -.289$, $p < .001$). No other noteworthy observations were made in the short-term context. Lastly, in the long-term context, Hostile had a weak negative correlation with self-assessment ($r = -.342$, $p < .001$). Second, Loser correlated negatively with self-assessment, but the effect was found to be very weak ($r = -.135$, $p < .001$).

Table 19: Correlation between self-assessment and ideal preferences on corresponding dealmaker and dealbreaker factors in women across short- and long- term contexts

Women		Context			
Dealmakers × Self	Long	Short	Long	Short	Dealbreakers × Self
Warmth	.415***	.183**	-.342***	-.289***	Hostile
Attractive	.307***	.313***	.064	-.003	Ugly
Status	.342***	.080	-.135***	-.040	Loser
Intelligence	.390***	.136*	.000	-.006	Bad hygiene
Passion	.555***	.426***	-.039	-.033	Arrogant
Stable	.206***	.288***	.060	.017	Clingy
Dominant	.188***	.138*	-.080*	-.044	Abusive

* $p < .05$. ** $p < .01$. *** $p < .001$.

Finally, self-assessment was correlated with ideal preferences in men (Table 20). In the short-term context, the Passion factor had a positive correlation, ($r = .336, p < .001$). The Status factor was noted to have a weak positive correlation ($r = .235, p < .001$). Intelligence was found to have a weak positive correlation in the short-term context ($r = .226, p < .001$). The Stable factor had a very weak positive correlation, ($r = .159, p < .01$).

In the long-term context, Passion maintained a positive correlation, but the effect increased from weak to moderate ($r = .539, p < .001$), which was similar to the effect found in women. Intelligence was also found to positively correlate with self-assessment and with a similar effect to women ($r = .381, p < .001$). Warmth had a weak positive correlation ($r = .347, p < .001$), in contrast to the lack of effect in the short-term context. The Attractive factor was found to positively correlate with self-assessment and with a similar weak effect as in women ($r = .327, p < .001$). The Dominant factor correlated positively with self-assessment and, much like in women, the effect was found to be weak ($r = .233, p < .001$). The Status factor maintained a similar positive correlation with a similar effect, making the contextual difference negligible ($r = .214, p < .001$). The Stable factor maintained a similar effect and a positive correlation, rendering the contextual difference negligible ($r = .170, p < .01$)

With regards to dealbreakers, in the short-term context, the Abusive factor retained its very weak negative correlation ($r = -.138, p < .05$). The Hostile factor also retained a very weak negative correlation ($r = -.122, p < .05$). In the long-term, Hostile was found to have a very weak negative correlation with self-assessment ($r = -.232, p < .001$). Loser correlated negatively with self-assessment, although the correlation was found to be very weak ($r = -.139, p < .01$). The Abusive factor had a very weak negative correlation ($r = -.118, p < .01$).

Table 20: Correlation between self-assessment and ideal preferences on corresponding dealmaker and dealbreaker factors in men across short- and long- term contexts

Men		Context			
Dealmakers × Self	Long	Short	Long	Short	Dealbreakers × Self
Warmth	.347***	.097	-.232***	-.122*	Hostile
Attractive	.327***	.102	.014	-.017	Ugly
Status	.214***	.235***	-.139**	-.034	Loser
Intelligence	.381***	.226***	-.091*	-.106	Bad hygiene
Passion	.539***	.336***	.028	.084	Arrogant
Stable	.170***	.159**	.046	.012	Clingy
Dominant	.223***	.109	-.118**	-.138*	Abusive

* p < .05. ** p < .01. *** p < .001.

4. Discussion

Overall, the results of the analysis support the hypothesis that there exists differences amongst the sexes in their identification of what is a necessity and what is a luxury. This is unsurprising considering evolutionary models such as the parental investment theory (Trivers, 1972). This is also in line with the results of other studies (Li et al., 2002; Li & Kenrick, 2006). One unexpected finding was the Loser Δ scores. Women in the short-term context placed more importance on it than women in the long-term context. The reason why this is surprising is because one would expect that a woman interested in a long-term commitment with a man would place higher importance on the man in question not being a loser as they would need to be ambitious to acquire and provide resources. A potential explanation for this could be that the number of women respondents to the short-term budget was very small since only participants who showed interest in a short-term relationship in the original study completed the short-term budget tasks which might have skewed the results of the current analysis.

The hypothesis that participants' relationship status influences their necessities and luxuries was supported but only in particular contexts, with short-term relationship status influencing individuals' short-term scores, and long-term relationship status influencing

individuals' long-term score. By extension, this also supports the hypothesis that sociosexuality (assuming that an increased number of partners, especially short-term ones, indicates higher levels of sociosexuality) positively as well as negatively correlates with mate value, such that individuals with higher (or lower) sociosexuality deemed different traits as necessities or luxuries, thus, moderating mate preferences. This, too, is entirely unsurprising as it is in line with other findings (Brase & Guy, 2004; Csajbók et al., under review; Jonason et al., 2015, 2020). One surprising result, however, was that women who were not in a casual relationship viewed the Dominant Δ scores as a luxury in contrast to women who were in a casual relationship in the short-term context. It seems to fall in line with the above result, that being of women in a long-term relationship placing less importance on the Loser Δ factor in contrast to the same factor in the short-term context. A possible explanation for this is, again, the number of respondents was too little, which could have skewed the mean results.

I have also hypothesised that education will impact individuals' mate value and by extension, individual mate preferences. The hypothesis was not supported which was surprising considering that education was found to be valued by men and women (Buss et al., 2020; Luo, 2017). One particular finding from the analysis was in relation to the Abusive Δ factor. In men, education had a positive correlation with it in the long-term context. In women, however, education had a very weak correlation with the same factor in the same context. This may be due to an extraneous, unmeasured variable which impacts the results. Nevertheless, the correlation that education has with the Abusive Δ scores in men is a very weak one, and so the difference between men and women is probably not meaningful.

Mate value was hypothesised to impact individual mate preferences. In women, there was only one notable correlation. In men, however, more notable correlations were found, but

all generally very weak. Thus, this hypothesis was partially supported. As per theory, it would follow that as an individual's mate value increases or decreases, their preferences would adjust accordingly (Jonason, et al., 2015). Indeed, this aligns with other findings where mate value correlated with minimal mate preference standards between $r = .022$ and .347 (Csajbók et al., 2019) and between $r = .030$ and .250 (Csajbók et al., under review) in both sexes. In contrast, surprisingly, when using the budget allocation method here, the correlations were considerably weaker and manifested essentially only in men. Admittedly, however, in the aforementioned study, dealbreakers also correlated generally more weakly, between $r = -.10$ and .10, than dealmakers did (Csajbók et al., under review).

Additionally, I have also hypothesised that age, much like education, will correlate with mate value, and by extension, influence mate preferences. I have also hypothesised that age will correlate with ideal mate preferences. Results from both analyses did yield some correlations between age and some factors. They were, however, insufficient, and thus, age was not found to be a strong moderator. However, this is not surprising. Current research on the moderation effect of age on mate value (and mate preferences) is inconclusive. Brase and Guy (2004) found that age correlates with mate value. Others, such as Csajbók and colleagues (2019, under review) found that age does not account sufficiently for mate value and mate preference differences, respectively. Alterovitz and Mendelsohn (2013) found that age does correlate with mate preferences, however, only in later age categories (over 75) and in women in particular. The current analysis, however, cannot confirm or dispute the latter finding as the participants' age does not parallel the age group of their study sample.

Finally, the hypothesis that the simple rating method will yield results dissimilar to the budget-allocation method was supported. In the correlative analysis, the simple rating method

yielded stronger and more significant correlations than did the budget-allocation method. Thus, it seems that the simple rating method has more utility than the budget allocation method when studying at least individual differences, but perhaps human mate choice overall, too. This seems to resonate with findings made by Edlund and Sagarin (2010), where they identified that the limited budget restrained individuals' mate value from influencing their decisions more than it would in the simple rating method, which may explain why the simple rating method in this current thesis yielded stronger correlations as individuals were less restricted.

This thesis, of course, comes with limitations. The participants were recruited online and were, as mentioned shortly before, mostly young, making the analysis not properly representative nor generalisable across different groups of people such as older individuals. Furthermore, the recruited participants were from a WEIRD country, making it more difficult to generalise the findings cross-culturally.

4.1.   Conclusion

To conclude, the current thesis established that there does exist a discrepancy amongst the sexes in their perception of necessities and luxuries. Additionally, through my analysis, I have found that sex was the moderator with the strongest association with the dealmaker and dealbreaker delta scores, both in short- and long-term contexts. Other moderators had little to no effect on individual's mate preferences and choices. Considering that sex differences have been well established in the field, future researchers may not need to further test for such differences. Finally, it was found that the simple rating method yielded more noteworthy correlations than the budget-allocation method, indicating that it may have more utility when studying individual mate preferences than the budget-allocation method. Future research, and

in line with Alterovitz and Mendelsohn (2009, 2011), is advised to study older groups should they seek to test the moderation effect of age on individuals. Finally, education should be further researched. Education is expected to correlate with mate value and so, moderate mate preferences. The fact that results did not bear out any correlation between education and mate preferences may warrant further research. Overall, then, the current research found that sex differences do exist between individuals in their mate assessment, and that their sex is the moderator with the strongest influence over their mate preferences.

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Supplementary tables

Supplementary table 1: Comparison of women's short-term dealmaker delta scores between those in a casual relationship or not

Women	Casual	N	Mean	SD	t(df)	Cohen's D
			Short-term			
Warmth Δ	Yes	43	-0.77	3.169	0.575(55.303)	0.109
	No	199	-1.07	2.642		
Attractive Δ	Yes	43	1.88	3.459	-0.317(63.923)	-0.051
	No	200	2.07	3.664		
Status Δ	Yes	42	-1.45	2.539	-0.644(65.533)	-0.101
	No	197	-1.17	2.880		
Intelligence Δ	Yes	43	-1.37	3.230	-1.405(63.355)	-0.230
	No	199	-0.60	3.371		
Stable Δ	Yes	43	-1.44	2.754	-1.038(62.104)	-0.173
	No	199	-0.96	2.794		
Passion Δ	Yes	43	3.09	3.228	0.275(67.458)	0.043
	No	200	2.94	3.668		
Dominant Δ	Yes	43	0.05	3.352	1.970(64.89)	0.315
	No	200	-1.08	3.623		

Note. Δ = low budget – (high – low).

Supplementary table 2: Comparison of women's short-term dealbreaker delta scores between those in a casual relationship or not

Women	Casual	N	Mean	SD	t(df)	Cohen's D
			Short-term			
Hostile Δ	Yes	43	-1.37	3.295	-0.202(63.631)	-0.033
	No	197	-1.26	3.443		
Ugly Δ	Yes	43	2.00	4.036	1.013(58.367)	0.180
	No	199	1.32	3.714		
Loser Δ	Yes	42	-1.17	3.154	0.788(56.439)	0.142
	No	199	-1.58	2.889		
Bad hygiene Δ	Yes	43	2.16	3.735	-0.746(65.886)	-0.118
	No	200	2.64	4.119		
Arrogant Δ	Yes	42	-1.57	2.973	-0.543(59.098)	-0.093
	No	198	-1.30	2.928		
Clingy Δ	Yes	43	-1.35	2.919	-0.614(63.047)	-0.101
	No	197	-1.05	3.011		
Abusive Δ	Yes	43	1.30	3.758	-0.230(65.602)	-0.036
	No	200	1.45	4.121		

Note. Δ = low budget – (high – low).

Supplementary table 3: Comparison of men's short-term dealmaker delta scores between those in a

casual relationship or not.

Men	Casual	N	Mean	SD	t(df)	Cohen's D
			Short-term			
Warmth Δ	Yes	54	-2.11	3.548	-1.317(73.887)	-0.207
	No	253	-1.42	3.303		
Attractive Δ	Yes	55	4.31	4.776	0.074(72.683)	0.012
	No	256	4.26	4.166		
Status Δ	Yes	55	-1.04	3.421	0.604(70.531)	0.102
	No	254	-1.33	2.804		
Intelligence Δ	Yes	55	-1.75	3.273	-1.683(82.26)	-0.241
	No	255	-0.92	3.466		
Stable Δ	Yes	54	-1.44	3.570	1.108(74.542)	0.172
	No	254	-2.03	3.378		
Passion Δ	Yes	54	4.37	4.896	1.209(73.055)	0.191
	No	256	3.50	4.497		
Dominant Δ	Yes	54	-2.00	4.144	-0.092(68.786)	-0.016
	No	253	-1.94	3.375		

Note. Δ = low budget – (high – low).

Supplementary table 4: Comparison of men's long-term dealmaker delta scores between those in a long-term relationship or not

Men	Long-term	N	Mean	SD	t(df)	Cohen's D
			Long-term			
Warmth Δ	Yes	222	0.54	3.172	-0.625(503)	0.056
	No	283	0.72	3.135		
Attractive Δ	Yes	221	0.77	2.867	-1.679(502)	-0.151
	No	283	1.21	2.937		
Status Δ	Yes	220	-0.59	2.332	0.671(498)	0.060
	No	280	-0.73	2.230		
Intelligence Δ	Yes	221	0.47	2.803	-0.107(500)	-0.010
	No	281	0.50	2.897		
Stable Δ	Yes	221	-0.56	2.976	-0.240(500)	0.022
	No	281	-0.50	2.857		
Passion Δ	Yes	222	0.38	2.796	1.759(501)	0.158
	No	281	-0.06	2.804		
Dominant Δ	Yes	221	-0.90	2.807	0.609(502)	0.055
	No	283	-1.06	2.737		

Note. Δ = low budget – (high – low).

Supplementary table 5: Correlations between residence and delta scores in women across dealbreaker and dealmaker factors short- and long-term

Women	Short	Long
Residence × Dealmaker Δ		
Warmth Δ	-.092	.081*
Attractive Δ	.046	-.090*
Status Δ	-.056	-.018
Intelligence Δ	.113	-.006
Stable Δ	-.038	.044
Passion Δ	-.003	-.016
Dominant Δ	.009	-.004
Residence × Dealbreaker Δ		
Hostile Δ	.062	-.031
Ugly Δ	.030	.004
Loser Δ	-.071	-.039
Bad hygiene Δ	.007	.018
Arrogant Δ	-.060	-.012
Clingy Δ	-.038	.019
Abusive Δ	.043	.041

Note. Δ = low budget – (high – low).
* p < .05.

Supplementary table 6: Correlations between residence and delta scores in men across dealbreaker and dealmaker factors short- and long-term

Men	Short	Long
Residence × Dealmaker Δ		
Warmth Δ	-.058	.023
Attractive Δ	-.022	.020
Status Δ	.062	.034
Intelligence Δ	.134*	-.081
Stable Δ	-.061	-.029
Passion Δ	-.064	-.004
Dominant Δ	.037	.053
Residence × Dealbreaker Δ		
Hostile Δ	.052	-.031
Ugly Δ	-.008	-.051
Loser Δ	-.025	-.032
Bad hygiene Δ	-.026	.096*
Arrogant Δ	-.031	.025
Clingy Δ	.001	.033
Abusive Δ	.037	-.054

Note. Δ = low budget – (high – low).
* p < .05.

Supplementary table 7: Moderation effect of education on the budget allocations (delta scores) among women

Women	Short	Long

Education × Dealmaker Δ		
Warmth Δ	.050	-.026
Attractive Δ	-.128*	-.032
Status Δ	-.027	.063
Intelligence Δ	.074	.041
Stable Δ	-.005	.014
Passion Δ	-.042	-.037
Dominant Δ	.057	-.007
Education × Dealbreaker Δ		
Hostile Δ	-.106	-.057
Ugly Δ	-.019	-.024
Loser Δ	-.014	.020
Bad hygiene Δ	-.003	-.029
Arrogant Δ	-.124	.046
Clingy Δ	.077	.004
Abusive Δ	.137*	.028

Note. Δ = low budget – (high – low).
* p < .05.

Supplementary table 8: Moderation effect of education on the budget allocations (delta scores) among men

Men	Short	Long
Education × Dealmaker Δ		
Warmth Δ	.050	-.067
Attractive Δ	-.039	.012
Status Δ	.092	.059
Intelligence Δ	-.066	-.012
Stable Δ	-.002	.002
Passion Δ	-.009	.063
Dominant Δ	.014	-.058
Education × Dealbreaker Δ		
Hostile Δ	.036	.080
Ugly Δ	-.003	-.055
Loser Δ	-.009	-.067
Bad hygiene Δ	-.077	.127**
Arrogant Δ	.024	-.066
Clingy Δ	-.062	.013
Abusive Δ	.098	.119**

Note. Δ = low budget – (high – low).
** p < .01.