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Reasons of singles for being single: Evidence from Brazil, China, Czech Republic, Greece, Hungary, India, Japan and the UK

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Reasons of singles for being single: Evidence from Brazil, China, Czech Republic,

Greece, Hungary, India, Japan and the UK

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Abstract

The current research aimed to examine the reasons people are single across eight

different countries, namely Brazil, China, Czech Republic, Greece, Hungary, India, Japan

and the UK. We asked a large cross-cultural sample of single participants (N = 6,822) to

rate 92 different possible reasons for being single. These reasons were classified into 12

factors, including one's perceived inability to find the right one, the perception that one is

not good at flirting, and the desire to focus on one's career. Significant sex and age

effects were found for most factors. The factors were further classified into three separate

domains: Perceived poor capacity to attract mates, desiring the freedom of choice, and

currently being in between relationships. The domain structure, the relative importance of

each factor and domain, and as well as sex and age effects were relatively consistent

across countries. There were also important differences however, including the differing

effect sizes of sex and age effects between countries.

Keywords: singlehood; evolutionary mismatch; mating; cross-cultural research

Introduction

In most studied human cultures individuals typically form romantic bonds with another person (Fletcher et al., 2015). Nevertheless, a considerable proportion of people living in contemporary societies are single that is, they do not have an intimate partner (Cherlin, 2009; DePaulo & Morris, 2005). To use one example, it has been found that, between one in four and one in three Americans were not in an intimate relationship (Pew Research Center, 2013; Rosenfeld et al., 2015). The relatively high prevalence of singlehood raises the question about its causes, and the current paper aims to examine the reasons why people are single in eight different countries. These reasons could be better understood within an evolutionary theoretical framework that will be discussed next.

Explaining singlehood

Previous studies have proposed four main reasons why people are single: 1) fitness advantages (i.e., singlehood could potentially increase one's reproductive success); 2) the result of evolutionary mismatch; 3) issues due to one's own constraints; 4) and because one is currently in between relationships (Apostolou, 2015, 2017; Apostolou et al., 2019). In more detail, where one's fitness is concerned, it was theorized that it could potentially be beneficial for young people to divert their limited resources in acquiring a good education and a good job than in attracting and keeping a mate (Apostolou et al., 2020). As these traits are typically highly valued in the mating market (Buss, 2017), the proposition was such that they could serve to enhance their

attractiveness to high quality mates at a later stage of their lives. In addition, individuals

who possess traits such as good looks, which are highly valued in a casual mate (Buss &

Schmitt, 2019), they can benefit by remaining single and having casual sex with different

partners instead of committing to an intimate relationship (Perilloux et al., 2013).

Separately, the evolutionary mismatch theorization would suggest that the

psychological mechanisms involved in mating have evolved in a context where mate

choice was regulated or dictated. Anthropological, historical and phylogenetic evidence

has indicated that, in ancestral pre-industrial societies, the prevalent mode of long-term

mating was via arranged marriage (Apostolou, 2007, 2010, 2012). Parents would

negotiate with other families the marriage of their children with limited input from the

latter (Coontz, 2005). In addition, several lines of evidence have likewise indicated that

raids and wars were frequent in ancestral human societies, and they would often result in

the winning males monopolizing access to women in the group that was conquered (Puts,

2010, 2016).

Although people generally have relatively unrestricted freedom with regards to

mate choice in contemporary postindustrial societies, the transition from a preindustrial to

a postindustrial context has taken place too rapidly evolutionarily-speaking, for selection

forces to adjust mating-related mechanisms adequately to suit the demands of the free

mate choice context, which could have resulted in several of these adaptations failing to

produce fitness-enhancing outcomes. This mismatch problem (Crawford, 1998; Li, et al.,

2017) has been proposed to be one of the main reasons for singlehood (Apostolou, 2015,

2017; see also Goetz et al., 2019).

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In addition, personal constraints such as poor physical and mental health, could similarly prevent people from attracting a partner. One possible reason is that the presence of such issues might be regarded as undesirable in a prospective partner (see Buss, 2017), or they could have made it almost impossible for one to have the means to find a mate due to their likely time-consuming nature. However, even if people do not face any difficulties in attracting and retaining mates, they may still be single due to a variety of other reasons. Partners might have been unfaithful, or have passed on, or they might have decided to terminate a relationship on their own accord because their mate value has increased, or that their partners' mate value has decreased over time and it has prompted them to find a new partner of a higher mate value (Buss et al., 2017).

Demographic differences

Humans mate predominantly within pair-bonds where both sexes invest heavily in the relationship and offspring. As a result, unlike most mammals, both men and women tend to be highly selective about their partners (Stewart-Williams & Thomas, 2013). Thus, we expect pickiness to drive of singlehood in both sexes as part of their long-term mating strategy (Buss & Schmitt, 1993). However, while the sexes' typical levels of parental investment are high for both sexes, their obligatory levels of investment are asymmetrical – men can, and sometimes do, sire children with very little investment (Trivers, 1972). Over time, this asymmetry has led men to evolve a propensity towards uncommitted sex and sexual variety as part of their short-term mating strategy, whereas women's short-term strategies emphasizes, among other things, securing investment and good genes (Buss & Schmitt, 1993; Buss, 2017). Assuming that these reasons are at least

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in part cognitively accessible, we may expect men and women who are drawn to short-term mating to give qualitatively different reasons for staying single – with men emphasizing that a long-term intimate relationship causes them to forgo mating opportunities with women.

Some of the reasons for singlehood are also likely to differ with age; in addition to the greater need of younger individuals to build up their acquisitions first as indicated previously, developing good flirting skills in order to attract a relatively high value mate also requires having a range of different romantic experiences over an extended period of time, predicting a greater tendency among younger individuals to remain single. Nevertheless, because some older adults might encounter constraints such as a serious health issue or the existence of children from previous relationships, they might also more likely to be single.

Current literature

The first comprehensive study in the area, identified 76 reasons for being single, and on the basis of the responses of a sample of Greek-speaking participants, classified them in 16 broad factors, including "difficulties with relationship initiation," "preference for the freedom to flirt around," and "mistrust of other individuals." Subsequently, these factors were classified in three broader domains namely, "Difficulties with relationships," "Freedom of choice," and "Constraints" (Apostolou, 2017). Consistent with our theoretical framework, the first factor reflected the mismatch problem, the second singlehood being beneficial for one's fitness, and the third issues due to one's own constraints. Men were predictably found to desire singlehood for the freedom to flirt

around, and women were more likely to prefer it if they have had negative experiences in a previous relationship. As expected, younger people tended to remain single for the freedom to flirt around, while older people tended to be single if they had a health problem, and/or children from previous relationships.

A more recent study combined the reasons identified by Apostolou (2017) with the reasons identified by a qualitative study that analyzed Reddit responses (Apostolou, 2019) into a comprehensive list of 92 reasons for singlehood (Apostolou et al., 2020). Based on the responses of a sample of American participants, it classified these reasons in 18 broad factors. In turn, these factors were classified in four broader domains, namely "Low capacity for courtship," "Freedom," "Constraints from previous relationships" and "Personal constraints." Consistent with our theoretical framework, the first domain reflected the mismatch problem, the second the fitness benefits of being single, and the third and fourth factors people's constraints. It was also found that men were more likely than women to indicate that they were single in order to be free to flirt around, and because they were not into family-making. Younger were more likely than older people to indicate that they were single because they had poor flirting skills, and because they did not like commitment. Finally, studies conducted in the Greek and Chinese cultural contexts, have found that about one in five people who were single, were between relationships; that is, they have recently exited a relationship and had not found yet another partner (Apostolou & Wang, 2019; Apostolou et al., 2019).

The present research

Taken together, the existing literature has thus far provided broad support for the leading theorizations of singlehood, while at the same time reinforcing the notion that singlehood is a complex phenomenon with many facets. To our knowledge, Apostolou and colleagues' (2020) study, is the only one conducted to date that was based on an attempt to understand the reasons for singlehood among people who were actually single. The current study aims to advance this line of work by examining the reasons for being single in different cultural contexts. Such endeavor is important in light of the possibility that cultural variations across nations might exist, and hence a cross-cultural examination of the factor structure is imperative in order to ascertain if the findings are generalizable universally. Examining differences and similarities between disparate cultures also allow us to understand to what extent aspects of our mating psychology are static or highly canalized, and which are more sensitive to local cues (Thomas et al., 2020).

We predict that the main reasons for being single would be largely consistent across cultures. On the other hand, cultural factors are expected to affect the reasons for singlehood in some respects. For instance, some cultures tend to place more emphasis on getting a good education and having a good career than others, and we would thus expect that, people would be more likely to be single in those cultures so as to pursue education and career goals. On this basis, we predict that differences in the reasons for being single would arise between cultures.

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Methods

Participants

Overall, 6,822 men and women from eight different countries (Brazil, China, Czech Republic, Greece, Hungary, India, Japan and the UK) took part in the study. All studies were conducted online, and participants were recruited using a variety of different survey platforms including MTurk (India), the Cross Marketing Inc. (Japan), Prolific inc., a University's participants' pool, and by word of mouth (UK), Facebook and other social media platforms (Brazil, China, Czech Republic, Greece, and Hungary), and through lists of participants from previous studies who have agreed to be contacted for future studies, and via a call for participants that was published in the university's journal (Brazil). Participants in the Indian and Japanese samples, and some from the UK sample who participated via Prolific, did receive monetary reimbursement for their participation. UK participants who were recruited through the participants' pool received course credits, while those that were recruited through word of mouth did not receive any reimbursement just like those from Brazil, China, Czech Republic, Greece and Hungary.

All participants were at least 18 years old, and they had to be single (i.e., not currently in any form of romantic relationship) in order to be eligible to participate. The entries of those participants who indicated that they were not single, were not retained. The demographic information for each sample is presented in Table 1.

Materials

In order to measure the reasons for singlehood, we employed the 92-item instrument developed by Apostolou et al. (2020). For the Indian and the UK samples, the English version of the instrument was used. For the samples in Brazil, China, Czech Republic, Greece, Hungary, and Japan, the instrument was translated into the native language. The questionnaire consisted of two parts. In the first part, participants were asked to indicate to what extent each of the 92 reasons contributed to their singlehood, using a five-point Likert scale (1 – Strongly agree, 5 – Strongly disagree). The order of presentation was randomized across participants. In the second part, demographic characteristics were collected.

Results

Factor structure

Our first step was to classify the 92 reasons into broader factors. For this purpose, we employed principal components analysis on the pooled sample using the direct oblimin as the rotation method. The KMO statistic indicated that our sample was very good for principal components analysis to be performed (KMO = .98). On the basis of the Kaiser criterion (Eigenvalue > 1), 12 factors were extracted (see Table 2). In order to classify these factors into broader domains, second-order principal components analysis was performed. In particular, 12 new variables were created, which reflected the mean of each extracted factor. Subsequently, principal components analysis was performed on

these variables, using direct oblimin as the rotation method. Using the Kaiser criterion (Eigenvalue > 1), three domains have been extracted (see Table 2).

We examined next whether the domain structure was similar across countries, or if there were substantial deviations. For this purpose, we ran confirmatory factor analysis using the maximum likelihood method separately on each sample. In Table 3 we present three goodness of fit estimates, namely the RMSEA, the CFI and the SRMR. The RMSEA indicated that the model did not make a good fit, while the CFI and SRMR indicated that in most cases the model was a good fit. For instance, the SRMR was above 0.9 in six cases, and very close to it in two cases.

The "Poor capacity to attract mates" was the first domain to emerge, which included the "I am not good at flirting" factor – people indicated that they were single because they felt they were having difficulties attracting prospective mates due to their shyness, lack of flirting skills, introversion, and their perceived inability to detect clues of interest. The next factor to load on this domain was the "Poor achievement record," which highlighted people's reasons for their singlehood status in relation to their perceived lack of achievements and poor financial health. The "Poor looks" and the "Sexual and psychological problems" were two other factors that made up this domain.

The "Freedom" was the next domain in line, and it encompassed the "I want to be free to do whatever I want" factor, which included reasons such as wanting to be single so as to be themselves, to do things without having to answer to anyone, and because of one's intolerance of restrictions. The domain also encompassed other factors such as "I want to be free to flirt around" factor, the "Career focus" factor, and the "I prefer to be alone" factor. The third domain to emerge was the "Between relationships."

Other than the "I am between relationships" factor, the domain was composed of other factors such as the "I cannot find the right one," and the "I fear I will get hurt" factors.

In order to assess their relative importance, the means and standard deviations for each domain and factor were assessed. The percentage of participants who obtained a mean score that was greater than "3" (i.e., the middle point of each Likert scale assessing one's response to an item) was calculated in order to evaluate the importance of each factor and domain. The results (see Table 4.) indicated that the highest mean was obtained for the "I cannot find the right one" factor (59.2%), followed by the "I am not good at flirting" factor (47.3%). In terms of domains, the highest means were obtained for the "Between relationships" (33.9%) and the "Freedom" (33.8%).

Age and sex differences

In order to identify sex and age effects across factors, we performed a series of MANCOVAs, where the reasons composing each factor were entered as the dependent variables, and the participants' sex and age were selected as the categorical independent and continuous independent variable respectively. The analysis was performed 12 times, once for each factor, and the results are presented in Table 4. In order to avoid the problem of alpha inflation, Bonferroni correction could be applied - hence, any effects stemming from the current and subsequent analyses that has a p-value larger than .004 (0.05/12) would not be considered to be statistically significant. The same procedure was repeated in order to estimate sex and age effects across domains.

Significant main effects of sex and age were found for all domains. Female participants rated the "Between relationships" domain higher than males in general, with

the largest sex difference being observed for the "I fear I will get hurt" and the "I cannot find the right one" factors. With respect to age, the largest effect was found for the "I fear I will get hurt" factor, with younger individuals more likely to rate it higher than older ones. With respect to the "Freedom" domain, the largest sex difference was observed for the "I want to be free to flirt around" factor, with men rating it higher than women, while the reverse was true for the "I want to be free to do whatever I want" factor. With respect to age, the largest effect was for the "I want to be free to do whatever I want" factor, with younger participants having rated it more highly than older ones, while the reverse was true for the "Career focus" factor. Within the "Poor capacity to attract mates" domain, men were found to consistently rate factors such as the "Personal constraints," the "I am not good at flirting," and the "Poor achievement record" more highly than women, while older participants were more likely to consider the "Personal constraints" as a more important factor than younger ones, although the converse was found where the "Poor looks" factor was concerned.

Country differences

The means of factors and domains were first evaluated separately for each country. Subsequently, we ranked factors by placing the one with the highest mean first and the one with the lowest mean last (see Tables 5 and 6). Next, we ran an ANCOVA where the mean scores for a given factor (i.e., the average of the reasons making up the domain) were entered as the dependent variables, and the country and the participants' sex were entered as the independent categorical variables. Participants' age was entered as the continuous independent variable. Post-hoc analysis using Bonferroni was

performed in order to find any differences between countries. The procedure was

performed 12 times, once for each factor. The results are presented in Table 5. A similar

procedure was followed in order to estimate differences between countries across

domains, but this time the mean scores of the factors composing each domain were

entered as the dependent variables. The procedure was performed three times, once for

each factor. The results are presented in Table 6, where we can see that significant main

effects of the country of origin of the sample were found for all domains.

From Table 6 we can see that significant interactions between country and sex

and between country and age were produced for all domains and the majority of factors.

These findings suggest that the main effects of sex and age uncovered for each domain

and factor, were different across countries. Accordingly, we examined significant sex and

age effects across domains and factors separately for each country. Starting with factors,

we ran a MANCOVA where the reasons composing a factor were entered as the

dependent variables, and the participants' sex was entered as the categorical independent

variable; participants' age was entered as the continuous independent variable. The

analysis was performed separately for each country. The procedure was performed 12

times, once for each factor, and the results are presented in Table 5. Similarly, in terms of

domains, we ran a MANCOVA where the factors composing a domain were entered as

the dependent variables, and the participants' sex was entered as the categorical

independent variable; participants' age was entered as the continuous independent

variable. The analysis was also performed separately for each country. The procedure

was performed three times, once for each domain, and the results are presented in Table

6.

With respect to factors, there were consistencies but also variations in terms of sex and age effects (Table 5). For example, for the "I prefer to be alone" factor, significant positive age effects were found for almost all countries. However, age did not play a significant role for the UK sample, while the effect was negative for the Indian sample. In the same vein, similarities and differences were found across domains. For instance, for the "Between relationships" domain, significant sex differences were found for most domains. Nevertheless, the size of these differences varied across countries, where there was no significant main effect of sex for both the Indian and the Japanese samples.

Discussion

In the current research, we asked a large cross-cultural sample of single participants to rate how 92 different reasons have led them to be single. On the basis of their responses, we classified these reasons in 12 factors. The highest rated factor, was not be able to find the right one, followed by not being good at flirting, and career focus. Significant sex and age effects were found for most factors. The 12 factors were classified in three domains. The first domain reflected poor capacity to attract mates, the second freedom of choice and the third being between relationships. The domain structure, the relative importance of each factor and domain, as well as sex and age effects were relative consistent across countries, but there were also important differences.

Consistent with the predictions of our theoretical framework, one of the broad explanations (i.e., domains) for singlehood was one's perceived poor capacity to attract

mates, while one of the highest rated factors (reported by 47% of the respondents) found to reduce this capacity was the difficulties people encountered in flirting. This domain had the lowest mean score among the three domains, mainly due to low ratings for the personal constraints factor. This is expected, as there were likely to be relatively few people who have constraints such as a serious health problem or a handicap that have restricted their mating endeavors as a whole. The specific domain emerged also in the Greek (Apostolou, 2017) and in the American (Apostolou et al., 2020) cultural contexts, suggesting that difficulties to attract mates constitutes a universal main reason for singlehood in post-industrial societies.

Similarly, in accordance with our predictions, "Freedom," where one indicated that they were single in order to be free to do whatever they wanted, including flirting around with different partners and focusing on their careers, was also found to be an important domain for singlehood. This domain was rated as the second most important, with about 40% of the participants indicating that they were single in order to be free to do whatever they wanted, and about 42% of them choosing to do so in order to focus on their careers. Studies in the Greek (Apostolou, 2017) and in the American (Apostolou et al., 2020) cultural contexts have likewise reported comparable findings.

In line with our theoretical predictions, the "Between relationships" was another domain that emerged in the present study. Respondents indicated here that they were single because they have recently broken up and/or they have not gotten over their previous partner. The period of being between relationships was also extended by participants facing difficulties in finding someone they liked, one reason being that they were very picky. The "Between relationships" domain received the highest mean score,

and its sub-factor the "I cannot find the right one," was indicated as a reason for being

single by about 59% of the participants. However, the scores in this domain may also

reflect a bias. People might have felt more comfortable saying to themselves that they

were single because they have not yet found the right one, as compared to other factors

such as perceived poor flirting skills or looks. Previous studies have identified being in

between relationships as a factor, but not as a separate domain (Apostolou et al., 2020).

Thus, further research is required in order to determine whether it actually constitutes a

separate domain.

Contrary to our original prediction, a fourth domain, reflecting personal

constraints such as health issues, did not emerge. Two factors, namely "Personal

constraints" and "Sexual and psychological problems" did emerge, but they were not

consolidated in a separate domain, but under the "Poor capacity to attract mates" domain.

One possible explanation is that, these factors were important in terms of impairing

individuals' capacity to attract mates. Nevertheless, previous research has classified

similar factors in a separate domain (Apostolou et al., 2020); and thus, further research is

required in order to determine if these factors do indeed constitute facets of perceived

poor capacity to attract mates or a separate domain altogether.

Where sex differences are concerned, men were predictably found to be more

likely than women to indicate that they were single in order to be able to flirt around,

while women indicated that they were more likely than men to be single because they

were choosy and that they could not find the right one. The largest sex difference was

with regards to the factor pertaining to the apprehension about getting hurt, where women

gave higher scores than men. In terms of domains, the largest sex difference, as predicted

by the evolutionary mismatch problem, pertains to one's perceived poor capacity to attract mates, with men giving higher scores than women. Although sex differences were found in all factors and domains, the effect sizes indicated that these differences were generally small, suggesting that men and women were single for similar reasons.

In terms of age, younger people were predictably more likely than older ones to report that they were single because they wanted to flirt around, to be free to do what they have desired to do, and because they felt they lacked good flirting skills. The largest age effect was for the "Personal constraints" factor. This is expected as this factor is composed of reasons such as having offspring from former relationships and health problems, which are strongly predicted by age. Among the largest effects was in regard the "Poor looks" factor, where younger participants gave higher scores than older ones. This finding suggests that younger people possibly ascribe more importance to the appearance of a prospective partner, and hence, younger people who felt they were relatively not as attractive, might report it to be a more relevant reason than older ones.

Moving on, there were apparent similarities in the importance attributed to the reasons for singlehood across different countries. Both the domain structure and the hierarchy of reasons were relatively similar across different cultural samples. For instance, the "I am not good at flirting" factor, ranked near the top of the hierarchy of reasons for most countries, while the "Personal constraints" factor was found at the bottom of the hierarchy in most countries. There were also general consistencies in the direction and the significance of all the sex and age effects. For instance, in relation to the "Poor looks" factor, age was significant in all countries, while a significant sex difference

was found in all countries in relation to the "Poor achievement record" factor, with men giving higher scores than women.

Nonetheless, there were also notable country differences in the level of importance attributed to each domain and factor. For instance, participants in Greece and Brazil were similar with regards to the attribution of higher scores to the "Between relationships" domain, but China and Japan were more similar to each other in assigning the highest scores to the "Freedom" domain. In contrast to participants in other countries, participants in Japan gave the highest score for the "Poor capacity to attract mates" domain. There was also considerable variation in the effect sizes of the sex and age differences. As indicated earlier, the largest sex differences were found over the "Poor capacity to attract mates" domain, and these were observed from participants from countries like the UK, China and Japan, but only relatively moderate sex differences were found for participants in Brazil and Czech Republic. Similarly, the largest age effects were found for the "Poor capacity to attract mates" domain, with the largest difference observed in respondents in Greece, whereas the effect was very small in the Chinese sample.

The differences between different cultural groups, are most probably a reflection of both sample and actual cultural differences. We could use China as an example. Chinese participants were more likely to indicate the "Freedom" domain as the most important reasons for singlehood than those of other countries with the exception of India. One possible reason is that this domain is perceived to be more important for younger individuals than for older ones, and the Chinese sample is younger than those of other samples in this current study. In addition, Chinese parents are believed to be more

hands-on where their children's daily activities and issues are concerned, than those of other countries, and this is arguably where many parents-children conflicts arise (Chen-Gaddini, Liu, & Alameda, 2020). Consequently, when young adults enter at an age when they are ready to enter a university, they might then try to seek for more personal space than people from other cultures.

Although the current study has sought to examine cross-cultural similarities and consistencies in regard to the reasons for singlehood, it is beyond its scope to identify the cultural factors responsible for the observed differences. The complexity of the phenomenon, along with the many cultural differences that are likely to exist between countries, mean that additional research dedicated to this endeavor is needed.

One limitation of the current work is that it was based on self-report data, which tended to be susceptible to several human biases. For instance, in order to protect their self-esteem, people may be unwilling to admit, even to themselves, that they were single because they have experienced some difficulties with flirting, and they might be more likely to indicate that they were single because they have preferred it to be that way instead. In addition, our analysis was based on non-probability samples, so our findings may not readily generalize to the wider population. Moreover, although we have employed a large list of possible reasons for being single, there may well be other more culture-specific reasons which have not been adequately captured by the current scale. Furthermore, many different factors are likely to play a moderating role, but in the current research we have assessed only the effects of sex and age.

Singlehood is a fascinating and complex phenomenon, with many facets and contingencies. Although future research should expectedly add to this gradually

expanding body of evidence by exploring other yet-to-examined aspects of singlehood, the current findings does provide more clarity about a phenomenon that has enormous implications on a societal (e.g., given the chronic issue of low birth rates in many high-income countries) and economical level (e.g., the financial implications of a gradually shrinking local population) for countries across the globe.

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Table 1

Demographic information for the eight samples

Countries	Sample size			Age		Sexual orientation				
	Total	Women	Men	Women	Men	Heterosexual	Heterosexual with same-sex attraction	Bisexual	Homosexual with opposite-sex attractions	Homosexual
Total	6822	4007	2815	27.20 (9.14)	28.29 (9.82)					
Brazil	2285	1493	792	27.19 (8.24)	25.32 (7.13)	65.5%	19.8%	4.2%	4.4%	6.1%
China	1247	753	494	21.72 (3.26)	22.03 (4.21)	86.8%	-	8.0%	-	5.2%
Czech Republic	909	552	357	28.94 (8.84)	30.14 (8.87)	71.0%	20.1%	2.9%	1.8%	4.3%
Greece	708	379	329	30.01 (9.63)	31.08 (9.77)	-	-	-	-	
Hungary	393	267	126	25.72 (8.37)	25.21 (6.36)	81.2%	12.7%	2.8%	1.8%	1.5%
India	465	315	150	27.13 (4.97)	28.27 (4.73)	69.2%	6.2%	17.8%	1.9%	4.7%
Japan	478	225	253	42.05 (13.01)	46.26 (10.76)	88.9%	5.2%	3.6%	2.7%	3.9%
UK	337	188	149	22.98 (5.87)	26.50 (7.51)	70.0%	21.1%	2.4%	0.8%	1.5%

Note. The Chinese study did not distinguish between heterosexual and heterosexual with same-sex attractions, and homosexual and homosexual with opposite-sex attraction. In addition, the Greek study did not record sexual orientation.

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Table 2

Classification of the reasons for staying single in factors and domains using the pooled sample

Domains
   Factors
     Reasons

	Factor loadings - First order	Factor loadings - Second order
Poor capacity to attract mates		
I am not good at flirting		.938
I am shy	.830	
I am not good in flirting	.766	
I am very introverted	.742	
I am terrible at picking up on signals	.726	
I am socially awkward	.647	
I do not know how to start a relationship	.625	
I do not feel confident	.561	
I do not make any effort or make any moves to attract a potential partner	.532	
I get high anxiety around women/men	.463	
I am a boring individual	.452	
I am not good in relationships	.415	
I am single because I believe that nobody wants to be with me	.381	
Poor achievement record		.820
I have not achieved much in life and I do not think I am attractive as a mate	.497	
My financial situation prevents me from having a relationship	.455	
Poor looks		.767
Because of my weight	-.488	
I am not good looking	-.401	

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I had many failures and I have given up trying	-.398	
I do not feel ready to start a relationship	.358	
I have not accumulated enough experiences to commit to a relationship	.313	
Sexual and psychological problems		.674
Sometimes I face sexual difficulties	-.584	
I have psychological problems	-.567	
I am not doing very well in the sexual domain	-.537	
I am going through a period of intense stress and anxiety	-.429	
Personal constraints		.339
I have children from a previous relationship	.729	
I want to devote my attention to my children	.682	
I have a disability	.681	
I need some time to decide about my sexual orientation	.670	
Because of my sexual orientation	.669	
I cannot have children	.641	
I have a serious health issue	.579	
Because of my addictions (alcohol, drugs etc.)	.552	
My relationship may not be socially acceptable	.549	
I move often so it is not easy to keep a relationship	.533	
I believe that I am too old to start a relationship	.459	
I am grieving	.340	
Freedom		
I want to be free to do whatever I want		-.929
I want to be able to be myself	.698	
I want to be able to dress the way I want without having to answer to anyone	.651	
I want to not have to answer to anyone about what I am doing	.581	
I want to be able to go wherever I want without needing to answer to anyone	.577	
I do not tolerate restrictions	.545	
I like to have my own space	.528	

I am single because I want to not get bored	.509	
I do not want to lose my freedom	.473	
I am single because I want to have more time to spend with my friends	.394	
I want to avoid conflict	.371	
I am single because I do not want to be alienated from my friends	.368	
I want to not feel under pressure	.348	
I want to be free to flirt around		-.880
I want to be able to have many casual relationships	.779	
I want to be free to flirt with whoever I want	.721	
I want to have a freer sexual life	.652	
I want to have more choices	.501	
I want to be able to go out more often	.491	
I want to avoid the responsibilities that a relationship entails	.436	
I do not like commitment	.436	
I want to have fewer obligations	.416	
Commitment scares me	.375	
Career focus		-.879
I want to focus on my career	.839	
I worry that a relationship is going to be damaging for my career	.693	
I have different priorities	.678	
I do not have enough time to devote to a relationship	.622	
I want to be free to chase my own goals	.516	
I feel that I need some time alone	.429	
I am doing well right now	.406	
I prefer to be alone		-.854
I do not feel the emotional need to start a relationship	.551	
I prefer to be alone	.519	
I believe that being in a relationship will not make me happier than I am right now	.473	

I got used to be alone	.448	
I do not want to have a family	.406	
I am not the family type	.382	
I am not willing to make compromises and concessions	.276	

Between relationships

I am between relationships		.925
I recently broke up	.754	
I have not gotten over my previous relationship	.725	
Bad experiences from previous relationships	.455	
I cannot find the right one		.617
I cannot find someone interesting	.814	
I cannot find the right one	.793	
I am very picky	.556	
I have no avenues for meeting available men/women	.389	
I am attracted to the wrong men/women	.359	
I fear I will get hurt		.411
I am afraid that the relationship will fail	.770	
I am afraid that my partner will stop loving me	.710	
I am afraid that my partner will cheat on me	.707	
I am afraid that I will be disappointed	.704	
I am afraid that what I will give to the relationship will be wasted	.636	
I am afraid that I will get hurt again	.612	
I am single because love scares me	.540	
I do not trust men/women	.530	
I am single because I fear rejection	.478	
I do not trust easily	.473	
I am single because change scares me	.417	
I want to avoid jealousy	.373	
I am single because I fear that my negative aspects will be revealed	.361	
I would not have to worry about where my partner is and what he/she is doing	.357	

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Table 3

Goodness of fit indexes from confirmatory factor analysis

Countries	RMSA	CFI	SRMR
Brazil	.097	.904	.0709
China	.144	.845	.0825
Czech Republic	.102	.915	.0722
Greece	.084	.933	.0637
Hungary	.106	.903	.0846
India	.150	.931	.0455
Japan	.162	.850	.0915
UK	.117	.868	.0873

Table 4

Significant sex and age effects for the 12 extracted factors

Domains/Factors	Overall Mean (SD)	Frequencies* %	Sex** p-value	ηp²	Age*** p-value	ηp²	Country p-value	ηp²	Country*Sex p-value	ηp²	Country*Age p-value	ηp²
Between relationships	2.74 (0.72)	33.9%	<.001	.015	<.001	.008	<.001	.014	<.001	.007	<.001	.007
I am between relationships	2.23 (1.08)	20.1%	(w) <.001	.007	(+) <.001	.004	<.001	.009	<.001	.006	<.001	.005
I cannot find the right one	3.23 (0.84)	59.2%	(w) <.001	.020	(+) .001	.003	<.001	.010	<.001	.007	<.001	.023
I fear I will get hurt	2.75 (0.91)	39.4%	(w) <.001	.037	(-) <.001	.018	<.001	.009	<.001	.008	<.001	.005
Freedom	2.60 (0.86)	33.8%	<.001	.026	<.001	.031	<.001	.014	<.001	.004	<.001	.006
I want to be free to do whatever I want	2.71 (1.02)	40.4%	(w) <.001	.013	(-) <.001	.027	<.001	.013	.001	.003	<.001	.005
I want to be free to flirt around	2.30 (0.95)	21.7%	(m) <.001	.018	(-) <.001	.012	<.001	.010	<.001	.004	<.001	.003
Career focus	2.81 (1.01)	42.0%	(w) <.001	.013	(-) <.001	.015	<.001	.007	<.001	.003	<.001	.004
I prefer to be alone	2.57 (0.94)	29.5%	(1) <.001	.006	(+) .001	.005	<.001	.007	.059	.001	<.001	.003
Poor capacity to attract mates	2.34 (0.74)	17.2%	<.001	.036	<.001	.021	<.001	.008	<.001	.004	<.001	.011
I am not good at flirting	2.96 (0.96)	47.3%	(m) <.001	.025	(-) <.001	.027	<.001	.009	<.001	.006	<.001	.004
Poor achievement record	2.43 (1.16)	24.1%	(m) <.001	.025	(+) <.001	.008	<.001	.016	<.001	.003	<.001	.007
Poor looks 2	2.50 (0.84)	21.9%	(m) <.001	.011	(-) <.001	.033	<.001	.010	<.001	.004	<.001	.006
Sexual and psychological problems	2.25 (0.97)	18.8%	(m) <.001	.013	(+) <.001	.011	<.001	.008	<.001	.002	<.001	.004

Personal constraints 3	1.54 (0.71)	5.2%	(m) <.001	.027	(+) <.001	.058	<.001	.030	<.001	.006	<.001	.016

* The percentage of the participants who had a mean score above "3."

** m = men higher than women, w = women higher than men

*** The sign in the parenthesis indicates the sign of the regression coefficient of age.

1 Men gave significantly higher scores for the "I do not want to have a family" and the "I am not the family type" reasons, while women gave higher scores for the "I believe that being in a relationship will not make me happier than I am right now" reason.

2 With respect to the age, the "I had many failures and I have given up trying" had a positive sign.

3 The "I need some time to decide about my sexual orientation," the "Because of my sexual orientation and the "My relationship may not be socially acceptable" had a negative sign. For Greece, the "I need some time to decide about my sexual orientation" had a negative sign.

Table 5

Mean differences in factors and sex and age effects across countries

Factors	Overall		Sex				Age	
			Women	Men				
	Mean (SD)	Rank	Mean (SD)	Mean (SD)	*p*-value	η_p^2	*p*-value	η_p^2
I cannot find the right one								
Brazil	3.36 (0.86)C,H,I,J,UK	1	3.52 (0.81)	3.04 (0.86)	<.001	.095	(+) <.001	.016
China	3.01 (0.77)B,Cz,I,G	3	3.11 (0.75)	2.86 (0.79)	<.001	.072	(+) <.001	.021
Czech Republic	3.33 (0.82)C,H,I,J,UK	1	3.45 (0.78)	3.14 (0.85)	<.001	.065	(+) <.001	.035
Greece	3.24 (0.84)C,I,J	1	3.35 (0.85)	3.12 (0.82)	.001	.032	(+) <.001	.058
Hungary	3.15 (0.83)B,Cz,I,J	1	3.22 (0.81)	3.03 (0.85)	.010	.038	.059	.027
India	3.48 (0.91)B,C,Cz,G,H,J, UK	5	3.59 (0.82)	3.42 (0.95)	.132	.018	(-) <.001	.094
Japan	2.95 (0.74) B,C,Cz,G,H,I	2	2.99 (0.75)	2.90 (0.73)	.320	.012	(+) .008	.032
UK	3.12 (0.82)B,Cz, I	1	3.24 (0.76)	2.98 (0.86)	<.001	.111	.066	.031
I am not good at flirting								
Brazil	3.13 (1.00)C,Cz,G,H,I	2	3.02 (0.96)	3.33 (1.04)	<.001	.076	(-) <.001	.069
China	2.82 (0.76)B,Cz,I,J,UK	5	2.84 (0.76)	2.79 (0.77)	<.001	.065	(+) .001	.026
Czech Republic	2.97 (0.95)C,G,H,I,J	2	2.84 (0.94)	3.18 (0.94)	<.001	.051	(-) <.001	.049
Greece	2.58 (0.93)B,C,Cz,I,J,UK	4	2.45 (0.91)	2.74 (0.93)	<.001	.098	(-) <.001	.055
Hungary	2.53 (1.01)B,I,J,UK	2	2.41 (0.97)	2.76 (1.04)	<.001	.125	(-) .044	.054

India	3.37 (0.97)B,C,Cz,G,H,UK	8	3.39 (0.92)	3.35 (0.99)	.480	.025	(-) <.001	.145
Japan	2.96 (0.89)C,Cz,G	3	2.85 (0.88)	3.02 (0.90)	.002	.065	(-) .004	.061
UK	3.09 (1.01)C,G,H,I	2	2.86 (0.95)	3.38 (1.00)	<.001	.131	(-) .001	.095
Career focus								
Brazil	2.81 (1.07) C,Cz,G,H,I,UK	3	2.92 (1.07)	2.61 (1.07)	<.001	.029	(-) <.001	.049
China	2.33 (0.70)B,Cz,G,H,I,J, UK	2	3.41 (0.68)	3.19 (0.72)	<.001	.037	.715	.004
Czech Republic	2.38 (0.92)B,C,H,I,J	4	2.46 (0.92)	2.26 (0.90)	.074	.014	(-) <.001	.094
Greece	2.42 (0.91)B,C,H,I,J	6	2.51 (0.90)	2.32 (0.91)	.001	.039	(-) <.001	.054
Hungary	2.17 (0.89)B,C,Cz,G,I,J, UK	5	2.23 (0.86)	2.05 (0.92)	.002	.056	(-) <.001	.079
India	3.71 (0.79)B,C,Cz,G,H,J, UK	1	3.75 (0.93)	3.69 (0.81)	.062	.029	(-) <.001	.090
Japan	2.57 (0.79)C,Cz,G,H,I	7	2.59 (0.84)	2.55 (0.75)	.070	.027	(+) .008	.039
UK	2.63 (0.96)B,C,H,I,J	4			<.001	.109	.393	.022
I fear I will get hurt								
Brazil	2.78 (0.94)C,Cz,H,I,UK	4	2.90 (0.94)	2.54 (0.89)	<.001	.141	(-) <.001	.046
China	2.96 (0.77)B,Cz,G,H,I,U K	4	3.00 (0.75)	2.89 (0.78)	<.001	.082	.097	.017
Czech Republic	2.43 (0.82)	3	2.48 (0.81)	2.36 (0.82)	<.001	.083	(-) <.001	.071
Greece	2.61 (0.87)	3	2.60 (0.90)	2.62 (0.83)	<.001	.080	(-) <.001	.062

Hungary	2.31 (0.84)B,C,Cz,G,I,J, UK	3	2.38 (0.83)	2.17 (0.84)	<.001	.175	(-) .012	.072
India	3.45 (0.92)B,C,Cz,G,H,J, UK	7	3.56 (0.85)	3.40 (0.95)	.824	.020	(-) <.001	.130
Japan	2.62 (0.82)C,Cz,H,I	6	2.63 (0.85)	2.61 (0.80)	.070	.047	.106	.044
UK	2.68 (0.88)C,Cz,H,I	3	2.84 (0.86)	2.47 (0.86)	<.001	.190	.004	.092
I want to be free to do whatever I want								
Brazil	2.44 (0.99)C,Cz,G,H,I,J	7	2.52 (1.00)	2.28 (0.95)	<.001	.038	(1) <.001	.055
China	3.46 (0.72)B,Cz,G,H,I,J, UK	1	2.56 (0.67)	3.31 (0.75)	<.001	.056	(2) .004	.023
Czech Republic	2.29 (0.89)B,C,G,H,I,J,UK	7	2.34 (0.86)	2.22 (0.91)	.001	.035	(-) <.001	.093
Greece	2.68 (0.98)B,C,Cz,H,I,UK	2	2.70 (0.99)	2.66 (0.97)	.007	.042	(1) <.001	.081
Hungary	2.08 (0.88)B,C,Cz,G,I,J, UK	8	2.15 (0.88)	1.91 (0.86)	.076	.050	(-) .002	.076
India	3.61 (0.81)B,C,Cz,G,H,J, UK	2	3.67 (0.77)	3.58 (0.83)	.990	.008	(-) <.001	.136
Japan	2.66 (0.80)B,C,Cz,H,I,J	5	2.69 (0.84)	2.62 (0.75)	.005	.058	(+) .002	.063
UK	2.47 (0.90)C,Cz,G,H,I	6	2.58 (0.77)	2.33 (0.91)	.053	.063	(-) <.001	.123
I prefer to be alone								
Brazil	2.45 (0.91)C,G,H,I,J	6	2.49 (0.91)	2.36 (0.91)	<.001	.017	(+) <.001	.023

China	2.74 (0.80)b,Cz,G,H,I,UK	6	2.79 (0.80)	2.65 (0.78)	.013	.014	(+) .002	.018
Czech Republic	2.36 (0.93)B,C,H,I,J	5	2.39 (0.93)	2.33 (0.92)	.204	.011	(+) .005	.022
Greece	2.34 (0.90)B,C,H,I,J	7	2.37 (0.88)	2.31 (0.91)	.463	.010	(+) <.001	.059
Hungary	2.10 (0.91)B,C,Cz,G,I,J,UK	6	2.13 (0.93)	2.05 (0.86)	.366	.020	(+) .053	.035
India	3.52 (0.97)B,C,Cz,G,H,J,UK	4	3.56 (0.80)	3.50 (0.91)	.279	.019	(-) <.001	.111
Japan	2.97 (0.86)B,Cz,G,H,I,J,UK	1	2.95 (0.88)	2.99 (0.84)	.142	.023	(+) <.001	.059
UK	2.42 (0.81)C,H,I,J	7	2.36 (0.70)	2.51 (0.93)	<.001	.076	.476	.020
***Poor looks* 3**								
Brazil	2.51 (0.83)Cz,G,H,I,J,UK	5	2.46 (0.82)	2.61 (0.85)	<.001	.045	(-) <.001	.070
China	2.56 (0.70)Cz,G,H,I,J	9	2.56 (0.66)	2.55 (0.74)	<.001	.047	(-) <.001	.018
Czech Republic	2.31 (0.78)B,C,G,I,J,UK	6	2.25 (0.79)	2.41 (0.75)	<.001	.062	(-) <.001	.093
Greece	2.14 (0.76)B,C,Cz,I,J,UK	8	2.10 (0.74)	2.19 (0.79)	<.001	.047	(-) <.001	.086
Hungary	2.23 (0.79)B,C,I,J,UK	4	2.22 (0.78)	2.25 (0.81)	.037	.030	(-) .004	.044
India	3.29 (1.01)B,C,Cz,G,H,J,UK	9	3.34 (0.96)	3.26 (1.04)	.830	.005	(-) <.001	.119
Japan	2.54 (0.77)B,C,Cz,G,H,I,UK	8	2.47 (0.80)	2.61 (0.74)	.153	.017	(-) <.001	.066

UK	2.56 (0.76)C,Cz,G,H,I,J	5	2.58 (0.70)	2.52 (0.83)	.060	.032	(-) <.001	.044
Poor achievement record								
Brazil	2.39 (1.22)Cz, G,H,I,J	8	2.21 (1.15)	2.73 (1.23)	<.001	.040	(-) <.001	.012
China	2.58 (0.98)Cz,G,H,I,J,UK	8	2.47 (0.95)	2.75 (0.99)	<.001	.024	(+) .016	.007
Czech Republic	2.07 (1.00)B,C,H,I,J,UK	9	1.90 (0.91)	2.33 (1.08)	<.001	.045	(-) .004	.012
Greece	2.07 (1.06)B,C,I,J,UK	11	1.82 (0.93)	2.36 (1.13)	<.001	.062	(+) <.001	.069
Hungary	1.83 (0.97)B,C,Cz,I,J,UK	10	1.65 (0.85)	2.19 (1.11)	<.001	.098	(+) .004	.028
India	3.53 (1.07)B,C,Cz,G,H,J, UK	3	3.52 (0.99)	3.54 (1.11)	.596	.002	(-) <.001	.093
Japan	2.89 (1.09)B,C,Cz,G,H,I, UK	4	2.64 (1.07)	3.11 (1.06)	<.001	.071	.177	.007
UK	2.34 (1.10)C,Cz,G,H,I,J, UK	8	2.08 (0.94)	2.67 (1.19)	<.001	.086	(-) .001	.042
I want to be free to flirt around								
Brazil	2.10 (0.95)C,Cz,H,I,J	11	2.08 (0.94)	2.15 (0.97)	<.001	.049	(-) <.001	.042
China	2.67 (0.90)B,Cz,G,H,I,UK	7	2.64 (0.68)	2.70 (0.73)	<.001	.078	.761	.005
Czech Republic	1.99 (0.83)C,G,H,I,J	11	1.95 (0.80)	2.04 (0.88)	.001	.032	(-) <.001	.033
Greece	2.13 (0.91)C,Cz,H,I,J	10	2.03 (0.83)	2.25 (0.97)	<.001	.107	(-) <.001	.055

Hungary	1.80 (0.84)B,C,Cz,G,H,I,J,UK	11	1.80 (0.82)	1.80 (0.88)	.845	.013	(-) .047	.013
India	3.47 (0.90)B,C,Cz,G,H,J,UK	6	3.52 (0.89)	3.45 (0.91)	.221	.026	(-) <.001	.102
Japan	2.44 (0.76)B,Cz,G,H,I,UK	9	2.40 (0.78)	2.47 (0.74)	<.001	.074	.211	.025
UK	2.18 (0.86)C,H,I,J	11	2.28 (0.88)	2.05 (0.82)	<.001	.107	(-) <.001	.92
Sexual and psychological problems								
Brazil	2.29 (0.97)C,H,I,J	9	2.26 (0.97)	2.35 (0.98)	<.001	.023	(-) <.001	.027
China	2.05 (0.80)B,Cz,G,I,J,UK	11	2.01 (0.78)	2.10 (0.83)	.035	.008	.265	.004
Czech Republic	2.17 (0.92)C,Cz,H,I,J	8	2.13 (0.94)	2.23 (0.88)	.005	.016	(-) <.001	.035
Greece	2.13 (0.85)C, H,I,J	9	2.04 (0.78)	2.24 (0.92)	<.001	.056	(-) .006	.022
Hungary	1.95 (0.89)B,Cz,G,H,I,J,UK	9	1.90 (0.88)	2.04 (0.92)	.038	.026	(-) .028	.028
India	3.10 (1.19)B,C,Cz,G,H,J,UK	12	3.18 (1.15)	3.06 (1.21)	.673	.005	(-) <.001	.105
Japan	2.34 (0.93)B,C,Cz,G,H,I,UK	10	2.26 (0.92)	2.41 (0.93)	.004	.032	(-) .018	.025
UK	2.20 (0.91)C,H,I,J	9	2.05 (0.83)	2.39 (0.97)	<.001	.081	.362	.013
I am between relationships								
Brazil	2.19 (1.05)Cz,G,I,J	10	2.27 (1.04)	2.02 (1.05)	<.001	.026	(+) .006	.005

China	2.11 (1.00)Cz,G,I,J	10	2.00 (0.98)	2.27 (1.00)	<.001	.019	(+) .002	.012
Czech Republic	2.04 (0.96)B,C,G,I	10	2.08 (0.96)	1.96 (0.94)	.008	.013	(+) .058	.008
Greece	2.54 (1.13)B,C,Cz,H,I,J, UK	5	2.65 (1.14)	2.41 (1.11)	.003	.021	(+) .005	.019
Hungary	2.08 (1.06)G,I	7	2.24 (1.08)	1.75 (0.94)	<.001	.056	(-) .004	.034
India	3.17 (1.24)B,C,Cz,G,H,J, UK	10	3.22 (1.19)	3.15 (1.26)	.943	.001	(-) <.001	.086
Japan	1.88 (0.78)B,C,G,I,UK	12	1.82 (0.79)	1.94 (0.77)	.206	.010	.062	.015
UK	2.18 (1.11)C,G,I,J	10	2.38 (1.14)	1.93 (1.01)	<.001	.065	.124	.017
Personal constraints 4								
Brazil	1.27 (0.34)C,Cz,G,H,I,J	12	1.26 (0.34)	1.29 (0.36)	<.001	.036	(+) <.001	.156
China	1.69 (0.65)B,Cz,G,H,I,UK	12	1.58 (0.55)	1.87 (0.74)	<.001	.063	(+) <.001	.101
Czech Republic	1.39 (0.39)B,C,H,I,J	12	1.39 (0.38)	1.41 (0.40)	<.001	.087	(+) <.001	.268
Greece	1.37 (0.38)B,C,H,I,J	12	1.38 (0.37)	1.37 (0.39)	<.001	.062	(+) <.001	.352
Hungary	1.17 (0.25)B,C,Cz,G,I,J, UK	12	1.18 (0.26)	1.16 (0.23)	.005	.071	(+) <.001	.228
India	3.12 (1.13)B,C,Cz,G,H,J, UK	11	3.24 (1.09)	3.07 (1.15)	.039	.047	(-) <.001	.126
Japan	1.89 (0.69)B,Cz,G,H,I,UK	11	1.75 (0.63)	2.01 (0.73)	<.001	.123	(+) <.001	.140

UK	1.34 (0.39)C,H,I,J	12	1.34 (0.39)	1.34 (0.39)	<.001	.107	(+) <.001	.171

1 The trend was to have a positive sign with the exception of the "I am single because I want to have more time to spend with my friends" and the "I am single because I do not want to be alienated from my friends" reasons.

2 The trend was to have a positive sign with the exception of the "I am single because I want to have more time to spend with my friends" reason.

3 For Brazil, China, Czech Republic, Greece, Hungary and UK the "I had many failures and I have given up trying" had a positive sign.

4 For Brazil and Czech Republic the "I need some time to decide about my sexual orientation," the "Because of my sexual orientation and the "My relationship may not be socially acceptable" had a negative sign. For Greece, the "I need some time to decide about my sexual orientation" had a negative sign. For Japan, the "My relationship may not be socially acceptable" had a negative sign. For the UK the "I need some time to decide about my sexual orientation" and the "Because of my sexual orientation" had a negative sign.

Table 6

Mean differences in domains and sex and age effects across countries

Domains	Overall		Sex				Age	
	Mean (SD)	Rank	Women Mean (SD)	Men Mean (SD)	p-value	η_p^2	p-value	η_p^2
Between relationships								
Brazil	2.77 (0.70)Cz,H,I,J	1	2.90 (0.67)	2.54 (0.68)	<.001	.083	<.001	.025
China	2.69 (0.67)G,H,I,J	2	2.71 (0.65)	2.67 (0.71)	<.001	.065	.001	.014
Czech Republic	2.60 (0.63)B,C,G,I	1	2.67 (0.61)	2.49 (0.64)	<.001	.034	.001	.018
Greece	2.81 (0.71)C,Cz,H,I, J,UK	1	2.87 (0.73)	2.73 (0.68)	<.001	.036	<.001	.049
Hungary	2.52 (0.67)B,C,G,I, UK	1	2.61 (0.66)	2.32 (0.65)	<.001	.052	.624	.005
India	3.37 (0.94)B,C,Cz,G ,H,J,UK	2	3.45 (0.87)	3.32 (0.97)	.301	.008	<.001	.109
Japan	2.48 (0.60)B,C,G,I	3	2.48 (0.60)	2.48 (0.60)	.281	.008	.066	.015
UK	2.66 (0.71)G,H,I	1	2.82 (0.70)	2.46 (0.67)	<.001	.058	.012	.032
Freedom								
Brazil	2.45 (0.85)C,Cz,H,I, J	2	2.50 (0.85)	2.35 (0.86)	<.001	.064	<.001	.096
China	3.05 (0.60)B,Cz,G, H,I,J,UK	1	3.10 (0.58)	2.96 (0.63)	<.001	.063	.576	.002

Czech Republic	2.26 (0.79)B,C,G,H,I,J	2	2.29 (0.78)	2.21 (0.81)	<.001	.044	<.001	.117
Greece	2.39 (0.79)C,Cz,H,I,J	2	2.40 (0.77)	2.38 (0.81)	<.001	.086	<.001	.068
Hungary	2.04 (0.78)B,C,Cz,G,H,I,J,UK	2	2.08 (0.78)	1.95 (0.79)	<.001	.052	<.001	.065
India	3.58 (0.79)B,C,Cz,G,H,J,UK	1	3.63 (0.73)	3.56 (0.81)	.903	.002	<.001	.092
Japan	2.66 (0.71)B,C,Cz,G,H,I,UK	1	2.66 (0.75)	2.66 (0.68)	.001	.038	.002	.036
UK	2.43 (0.76)C,H,I,J	2	2.52 (0.72)	2.30 (0.79)	<.001	.154	<.001	.073
Poor capacity to attract mates								
Brazil	2.32 (0.66)Cz,G,H,I,J	3	2.90 (0.67)	2.54 (0.68)	<.001	.049	<.001	.060
China	2.34 (0.62)G,H,I,J	3	2.71 (0.65)	2.67 (0.71)	<.001	.110	.004	.014
Czech Republic	2.18 (0.65)B,G,H,I,J	3	2.67 (0.61)	2.49 (0.64)	<.001	.060	<.001	.102
Greece	2.06 (0.63)B,C,Cz,G,I,J,UK	1	2.87 (0.73)	2.74 (0.68)	<.001	.088	<.001	.188
Hungary	1.94 (0.62)B,C,Cz,H,I,J,UK	3	1.87 (0.59)	2.09 (0.65)	<.001	.100	<.001	.103
India	3.28 (0.99)B,C,Cz,G,H,J,UK	3	2.45 (0.87)	3.32 (0.97)	.264	.014	<.001	.127

Japan	2.52 (0.71)B,C,Cz,G,H,I,UK	2	2.48 (0.60)	2.48 (0.60)	<.001	.086	<.001	.052
UK	2.31 (0.64)C,G,H,I,J	3	2.82 (0.70)	2.46 (0.67)	<.001	.171	.006	.049