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Andreas Schmitz, Susann Sachse-Thürer, Doreen Zillmann & Hans-Peter Blossfeld

Myths and facts about online mate choice
Contemporary beliefs and empirical findings

Online-Dating – Mythen und Fakten. Eine Konfrontation gängiger Vorstellungen mit empirischen Ergebnissen

Abstract:
With the increasing dissemination and usage of online mate choice, finding a partner via the Internet has attracted remarkable public attention in the last decade. Several, mostly negative prejudices toward online mate choice – especially regarding its risks and disadvantages – circulate constantly throughout the mass media and form public perceptions. This article presents common stereotypes on this (still) new phenomenon, derived from an investigation of newspapers online and offline, online guides, blogs, and discussion forums and confronts them with the empirical facts. Based on several descriptive analyses, we discuss whether and to what extent ten prevalent beliefs correspond to the empirical reality of finding a mate via the Internet in Germany.

Key words: online dating, Internet, media discourse

Zusammenfassung:

Schlagworte: Online-Dating, Internet, medialer Diskurs
“Online dating doesn’t seem very real to me. Sure, people do meet and fall in love over the internet but I still don’t believe in it.”

Online User Krist1neeween1e

1. Introduction

Relationship formation within the social web in general and through dating sites in particular has “reached a critical mass in many countries” (Hogan/Li/Dutton 2011: 33). It seems difficult to escape this phenomenon of online mate choice, as it appears in multimedia advertising campaigns, journalistic discourses, and one’s own circle of acquaintances. Finding a partner online can involve different social media such as chat or discussion forums or social networks (e.g., Facebook) and, most notably, online dating platforms. Despite the growing importance of the Internet as a means of mate search and partnership formation, many prejudices still seem to dominate the public discussion. These beliefs are often connected with making a distinction between searching for a partner offline (representing the traditional, “normal way” of finding a partner) and searching via the Internet (which is still associated with fundamental skepticism). These beliefs often convey the image of a minority of users who are forced to use the Internet for mate search purposes because of personal deficiencies such as a disadvantageous appearance. Consequently, if a relationship develops between people who have found each other online, it is often assumed not to be a “real” relationship. The opposite picture is drawn by the operators of mate search platforms. Dating companies stress the superior opportunities for finding a suitable partner from an online pool of partners, leading to a real, satisfying relationship. The mass media oscillate between those two positions, often not being able to justify either viewpoint with solid empirical data.

In fact, there has been a remarkable increase in research on online mate choice, but it has been published mostly for specialized scientific audiences (see e.g. Blossfeld/Schmitz/Schulz 2010; Fiore/Shaw/Taylor/Zhiong/Mendelsohn/Cheshire 2010; Gibbs/Ellison/Lai 2011; Hancock/Curry/Goorha/Woodworth 2008; Heino/Ellison/Gibbs 2010; Hitsch/Horton/Ariely 2010; Hogan/Li/Dutton 2011; Skopek 2011). It is often difficult to bridge the “communication gap” between this scientific discourse and that in the public sphere. This gap is the underlying motivation for our paper. We aim to pick up common beliefs on online mate choice, examine them empirically, and make the findings accessible to the general public. We have searched through different media sources and extracted predominant opinions and prejudices towards finding a mate online. The most prevalent beliefs are investigated and then analyzed with reference to the different studies available on online users as well as on the usage and character of online mate choice. To address a broad audience we present the empirical results in a way intelligible to the public at large and do not apply advanced statistical models. We show that some preconceptions about finding a mate online hold true, whereas others have to be rejected, thereby turning out to be myths. Empirical data is used to put all examined beliefs into perspective and we act as “hunters of myths” as Elias (1978) labeled it, aiming to shed light on the phenomenon of mate choice in the digital sphere.
2. Ten popular beliefs and facts on online dating

The word myth derives from the Greek *mythos*, which has a broad spectrum of meanings (Encyclopedia Britannica, 1990: 710) ranging from the unquestioned validity of *mythos* to the concept of *logos* whose validity or truth can be argued and demonstrated. We use the term in the modern sense of the word as a false statement, belief, theory, idea, and so forth. Myths represent a shared set of beliefs that have a significant meaning for a particular society. They might be functional in the sense of disburdening people’s everyday practices or dysfunctional in the sense of providing false foundations for agency. Representing more or less functional rules of thumb for everyday practice, myths hardly constitute a “coherent system of beliefs” (Bourdieu 1999), and contradictions in a particular field are not unexpected. However, empirical answers are all the more necessary if one intends to “hunt them down” in line with Elias’ conception of the sociologist’s task. Abbott (2010: 174) notes that “in this electronic age we can be ignorant faster than ever before, about more things and in more settings.” Hence, digital phenomena are particular a subject of unexamined beliefs. But, at the same time, the Internet also offers promising new opportunities for empirical assessment. The following work outlines ten widespread beliefs on online mate choice and contrasts them with empirical facts in order to assess whether they turn out to be either myths or beliefs that actually apply to social reality.

2.1 Data and method

The Internet does not just offer easy access to data on public discourses as they precipitate in newspapers or web lexica such as *Wikipedia*, but also to more spontaneous sources such as blogs in which Internet users discuss their perceptions of the social world. To gain an overview on the current discourse on online mate choice, we browsed a range of (online) newspapers, online lexica, and blogs for references to and discussions on online mate choice using different search terms such as online dating, online mate choice, or Internet dating. We collected a comprehensive compilation of ideas, perceptions, and evaluations on the discourse of finding a mate via online platforms. In a second step, we singled out the most frequent statements (in sources written in either English or German) in these narratives in order to identify the ten most prevalent ideas on online mate choice. These beliefs can be arranged and presented in three thematic groups: (a) beliefs about online dating users, (b) beliefs about the usage and character of online dating, and (c) beliefs about the offline impact of online dating.

We used different empirical sources to analyze and evaluate these statements: (a) observational online data revealing the processes on a dating site, (b) online survey data expressing subjective perceptions of dating site users, and (c) offline data on couples. The first data source consists of Web-generated process data collected on a major German dating platform (referred to as the “PMOD” log file” in the following, see Schmitz/Skö-
pek/Schulz/Klein/Blossfeld 2009). It contains records (logfiles) of contact behavior and profile information on 32,365 active users\(^2\) and 683,312 contact events collected between January 2009 and April 2010. This kind of data allows us to observe the users’ behavior over time and to reveal mating preferences based on actual behavior (see Schmitz/Skopkek/Schulz/Klein/Blossfeld 2009). The second data source was an online panel conducted between June 2009 and April 2010 on the same German dating platform. This could be used to analyze subjective perceptions on the use of the Internet as a means of mate choice. All registered and active users of the dating platform were invited to take part in the survey via e-mail. A total of 3,535 online daters of the platform filled in the questionnaire – representing a response rate of 10%. These data are referred to as the “PMOD survey”. The third data source was the first wave of the German “Panel Analysis of Intimate Relationship and Family Dynamics” (pairfam)\(^3\). Pairfam is a representative offline survey of 12,402 persons and 3,729 partners. The first pairfam wave allows us to assess how many of these relationships have been constituted offline and online. So far, only online surveys and business reports, that tend to overestimate the actual incidence of relationships started on the Internet, have been available. In contrast, the pairfam survey data enables us to estimate the number and characteristics of individuals who successfully used the Internet to find a partner and eventually formed a couple. We analyze all data with simple descriptive methods such as graphs and tables in order to make the results easily accessible to a broader public audience.

2.2. Beliefs and facts on online dating users

**Belief:** People using online dating are largely young and male. A still widespread and tenacious belief in the context of online dating is that users are mostly male (Consumers Guides 2010) and young (see Paul 2010). This assumption arises from two ideas: (a) Internet usage is associated with young men because of their particular affinity for technology, and (b) young men have a disproportionately high interest in the opposite sex.

**Fact:** In the first step, we analyzed the belief that only young people use the Internet as a way to find a partner. Figure 1 describes the age distribution of male and female users of a major German dating site.\(^4\) The average age of both sexes was about 40 years. Hence, the idea that only young people are using this medium to find a partner cannot be corroborated.

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2. An active user is defined as a person who at least sent one message within the observational window.

3. The survey is being coordinated by Bernhard Nauck, Johannes Huinink, Josef Brüderl, and Sabine Walper (see Huinink/ Brüderl/Nauck/Walper/Castiglioni/Feldhaus 2010). The panel is receiving long-term funding from the German Research Foundation (DFG).

4. Frequencies are presented as a kernel density distribution, a smooth representation that allows us to interpret the variable without single biasing parameter values and to compare different distributions within the same dimensionality.
Furthermore, it can be seen that the users’ age on the platform did not follow a simple normal distribution. Instead, age distributions for both sexes showed a clear bimodal pattern. Examining the family status of users revealed that this bimodal pattern was composed of two different normal distributions. Figure 2 shows that there were different normal distributions for men and women who have not been married before versus those who have married before.

**Figure 1:** Age distribution (kernel density) of online dating users by sex

**Source:** PMOD logfile of users of a German dating platform; \( N = 32,365 \); own calculation.

**Figure 2:** Age distribution (kernel density) by sex and marital status.

**Source:** PMOD logfile of users of a German dating site; \( N = 32,365 \); own calculation.
In the next step, we analyzed the frequently held belief that users of dating sites tend to be mostly male. This common belief is probably the reason why operators of online dating sites repeatedly contend that the relation between the sexes on their online platforms is more or less balanced or even female dominated. While some research was able to show that more men than women register to dating sites (see e.g., Brym/Lenton 2001; Sautter/Tippett/Morgan 2010), we wanted to analyze whether the sexes do differ by means of the active usage (as defined above), given a registration. Table 1 shows the percentages of both sexes on the analyzed dating platform based on the PMOD logfile data. Analyzing the profile information of 32,365 users of the German dating site yielded about 54% registered women and 46% registered men. Nonetheless, dating platforms are often abused by dubious profiteers who program artificial users (also called “bots”), trying to bait users into commercial services. Those programs, which simulate humans, exhibit attractive features, especially being female, young, and good-looking. Nonetheless, such artificial actors can be identified by their behavioral and interactional patterns (see Schmitz/Yanenko/Hebing 2011). Controlling for such bots resulted in a slight change in the sex distribution (48% women and 52% men). These results still clearly contradict the view that online dating sites are generally predominated by males, at least by means of active usage.

Table 1: Gender distribution with and without bot correction (column-wise percentages)

<table>
<thead>
<tr>
<th>Gender</th>
<th>With bots</th>
<th>Without bots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>53.97</td>
<td>48.38</td>
</tr>
<tr>
<td>Men</td>
<td>46.03</td>
<td>51.62</td>
</tr>
<tr>
<td>N</td>
<td>32.365</td>
<td>31.161</td>
</tr>
</tbody>
</table>

Source: PMOD logfile data of 32,365 active users of a German dating site; see Schmitz/Yanenko/Hebing (2011).

In summary, we exposed two common beliefs as myths: It is not just young people who use online dating today. On the contrary, there is a considerable proportion of people older than 60 years (extreme outliers are excluded). Two different populations (the “never married” and the “married before”) looking for a new partner on online dating sites create a bimodal age distribution for both sexes. The active participation in online dating is quite balanced with regard to sex with a slight over-representation of males – at least on the dating platform analyzed here. Of course, the market for dating platforms might be segmented by age and gender in Germany, and further research will have to inspect the gender distribution across all dating platforms.

Belief: People using online dating cannot find a partner offline. In an online newspaper, Kayawe (2011) has asked: “Online dating: a sign of desperation?” This illustrates the general belief that the only men and women who will need to use the Internet are those who are unable to find a partner offline. Part of this conviction is that people looking for a mate online can be characterized by unfavorable traits and thus by having lower chances in general. As the Telegraph.co.uk (2010) points out: “For years, online dating has en-

5 The term “bot” is derived from the English “robot”, referring to the fact the actor is not human.
ured a stigma that suggests it’s only reserved for those who are unattractive, old or unlucky in love.” In other words, this kind of characterization of online daters is used mostly for people who have not only low chances on mating markets, but also in other dimensions of their lives such as the labor market.

**Fact:** To test this belief, we compared the answers of the respondents in the PMOD online survey with those of the respondents in the pairfam survey. In both surveys, respondents were asked to assess their own attractiveness with the following question: “There are many people who would find me attractive as their partner.” Table 2 compares self-assessed attractiveness in the two surveys. Men and women in the PMOD online survey more often reported self-assessed attractiveness and less often unattractiveness than respondents in the pairfam offline survey did.

**Table 2:** Self-assessed attractiveness in respondents from the pairfam versus PMOD surveys (column-wise percentages)

<table>
<thead>
<tr>
<th></th>
<th>Pairfam</th>
<th></th>
<th>PMOD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Overall</td>
<td>Male</td>
</tr>
<tr>
<td>Not at all</td>
<td>3.6%</td>
<td>5.0%</td>
<td>4.2%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Partly</td>
<td>17.6%</td>
<td>19.5%</td>
<td>18.4%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Absolutely</td>
<td>8.0%</td>
<td>10.9%</td>
<td>9.3%</td>
<td>12.8%</td>
</tr>
</tbody>
</table>

**Source:** Pairfam (N = 12,402) and PMOD surveys (N = 3,535); own calculation.

People using the net for purposes of mate choice cannot be characterized generally as having a low “mate value.” A large group of online daters characterized itself as very attractive and probably uses the Internet merely as an additional and maybe exciting mate market. Thus, the belief that people using the Internet for mate search purposes suffer from a low mate value does not hold.

**Belief:** The majority of users fake their online profile. Users’ self-presentation in online dating profiles is crucial for generating contacts and reactions to their own contact offers. Due to the great number of competitors, users of online dating services often feel the pressure to present themselves in the best possible light (see Ellison/Heino/Gibbs 2006). This leads to the widespread belief that “online dating profiles are only about lying and betraying” (Riestenpatt 2010) and raises questions like: “Is it really possible that people who are searching for a partner on online dating sites are always taller, wealthier, and sportier than the average German citizen?” (Klopp 2010). One widespread belief is that online users exaggerate because they cannot find a partner offline.

Another widespread belief is that deceptive self-presentation has a gender-specific dimension: “When it comes to Internet dating men are much more likely than women to lie about . . . well, everything except their weight” (Vass 2011). Thus, it is often assumed

6 The item of the PMOD survey has been recoded from a 7-scale to a 5-scale variable.
7 Translated from German by the authors.
that (a) men lie more often than women, and (b) men lie about other characteristics than women: “Women tend to lie about their weight or their age. Men tend to lie about their income, level of baldness and their athletic condition” (Hedrick 2011).

Fact: When users of the analyzed German dating platform were asked whether they had ever experienced a lie on online dating sites (see Figure 3), about 20% of men and women stated that they had experienced a lie only once. About 37% of the users (32% of men, 43% of women) had experienced lies several times. However, it is also true that more than 40% of the users never detected any lies told by their counterparts.

Figure 3: Pie charts of experienced deception (Percentages). Question: “Have you ever been in contact with somebody on an online dating site who lied in his/her online profile?”

Table 3 presents experiences of men and women with deceptive profile characteristics reported by other users. Indeed, results showed that women ‘cheated’ most frequently regarding their weight (35%), profile picture (30%), and age (26%), which are characteristics referring to women’s physical attractiveness. Men, in contrast, lied most often about the kind of relationship they desired (i.e., whether they were looking for somebody for a chat or e-mail friendship, a sexual affair, or a long-term relationship, 45%), their marital status (36%), and their weight (38%). Interestingly, men lied more often than women with regard to all listed profile characteristics except for the number of own children. Two explanations are possible: either women are better at detecting men’s lies than vice versa or men really do lie more often than women.

The analysis of the frequency of deceptive behavior in Figure 3 and Table 3 is only one dimension of the trust problem between daters in an online mate market. Another – possibly more relevant – dimension is the magnitude of deception. A potential partner will more likely tolerate his/her interlocutor presenting himself/herself as being one year younger instead of ten years younger than he really is. One way to measure the magnitude of lies on online dating sites is to compare the characteristics of online dating users with
those of the Internet population in Germany (see Table 4). On the aggregate level, online
dating users are indeed a little taller, less overweight, and have a lower BMI than the av-
erage Internet user. This allows for two different conclusions: Either online daters are a
selective population who are a little taller, less overweight, and have a lower BMI or – the
more likely interpretation – online dating users are lying at least a little with regard to
these characteristics. Similar results have been documented in Toma, Hancock, and Ell-
ison’s (2008; see also: Hancock/Toma/Ellison 2007) refined study that compared the
weight, height, and age in online daters’ profiles with their actual data.

Table 3: Which profile characteristic have you been lied to about? (Percentages)

<table>
<thead>
<tr>
<th>Experienced misrepresentation of other users regarding:</th>
<th>Male</th>
<th>Female</th>
<th>Overall</th>
<th>N</th>
<th>Phi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>12.32</td>
<td>25.18</td>
<td>17.86</td>
<td>2,312***</td>
<td>0.166</td>
</tr>
<tr>
<td>Age</td>
<td>25.70</td>
<td>32.34</td>
<td>28.57</td>
<td>2,321***</td>
<td>0.073</td>
</tr>
<tr>
<td>Weight</td>
<td>35.39</td>
<td>37.46</td>
<td>36.29</td>
<td>2,315</td>
<td>–</td>
</tr>
<tr>
<td>Desired relationship</td>
<td>26.39</td>
<td>44.97</td>
<td>34.43</td>
<td>2,318***</td>
<td>0.194</td>
</tr>
<tr>
<td>Marital status</td>
<td>17.45</td>
<td>35.56</td>
<td>25.30</td>
<td>2,316***</td>
<td>0.206</td>
</tr>
<tr>
<td>Children</td>
<td>14.17</td>
<td>13.53</td>
<td>13.89</td>
<td>2,311</td>
<td>–</td>
</tr>
<tr>
<td>Education</td>
<td>17.26</td>
<td>23.35</td>
<td>19.90</td>
<td>2,312***</td>
<td>0.075</td>
</tr>
<tr>
<td>Profile picture</td>
<td>30.02</td>
<td>35.23</td>
<td>32.27</td>
<td>2,321**</td>
<td>0.055</td>
</tr>
<tr>
<td>Sex</td>
<td>6.25</td>
<td>3.81</td>
<td>5.19</td>
<td>2,311**</td>
<td>0.054</td>
</tr>
</tbody>
</table>

Source: Online survey of users of a German online dating site; own calculations. Sample restricted to re-
spondents who already had been in contact with other users. n refers to the number of respondents who
answered the question with “yes” or “no.” *p ≤ .05. **p ≤ .01. ***p ≤ .001.

Table 4: Comparison of online daters’ height, weight, and BMI with the height,
weight, and BMI of the German Internet population

<table>
<thead>
<tr>
<th>PMOD(^a)</th>
<th>Internet Population(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%-default</td>
</tr>
<tr>
<td>Men (n = 7,430)</td>
<td></td>
</tr>
<tr>
<td>Height(^c)</td>
<td>0.78</td>
</tr>
<tr>
<td>Weight(^d)</td>
<td>6.92</td>
</tr>
<tr>
<td>Body Mass Index(^e)</td>
<td>7.42</td>
</tr>
<tr>
<td>Women (n = 5,178)</td>
<td></td>
</tr>
<tr>
<td>Height(^c)</td>
<td>1.00</td>
</tr>
<tr>
<td>Weight(^d)</td>
<td>18.68</td>
</tr>
<tr>
<td>Body Mass Index(^e)</td>
<td>19.22</td>
</tr>
</tbody>
</table>

Source: This analysis was conducted by Skopec (2010) within his PhD Thesis.
Notes: \(^a\) Sample of active users derived from process-generated data; \(^b\) calculated with health data from
ALLBUS survey from 2004; \(^c\) measured in cm; \(^d\) measured in kg; \(^e\) calculation: BMI = kg/m\(^2\). Column
legend: %-default = percentage of respondents not answering to the particular item; M = arithmetic
mean; SD\(_x\) = standard deviation; x\(^{50}\) = median.

In sum, there are often gender-specific deceptions about daters’ characteristics in online pro-
files, and presumably also within e-mail communications. Thus, this belief seems to hold
true. But – and this is the important point here – the magnitude of misrepresentation seems
to be reasonably small. Online dates are reasonably a little taller, a little less overweight, and as Hancock et al. (2007) have shown, tend to present themselves in their online profile as being a little younger than they really are (see also Zillmann/Schmitz/Blossfeld in this issue).

2.3 Beliefs and facts on the usage and character of online dating

Belief: Physical appearance is essential in online dating. One belief about the character of online dating is that users are searching for physical appearance more than for inner values. This is also one of the most common opinions found in different sources: “It just seems like people will only date you on your looks” (User icedout 2008). This belief also has a gender-specific dimension: The everyday assumption is that “men only want beauties, women take all” (Bild.de 2009). Another belief derived from our media analysis pointed in exactly the opposite direction: “Looks don’t count” on the Internet (see Spurlock, 2006). The idea here is that, in contrast to offline interaction, individuals in the virtual world always want to get to know a potential mate’s inner characteristics before finding out about their physical attractiveness.

Fact: Figure 4 reports the answers of participants in the PMOD online survey when asked to state the subjective importance of different characteristics of a potential partner. Both men and women attributed the same importance to physical attractiveness. However, “humor,” “intelligence,” and “education” seemed to be even more important. Thus, outward appearance seems to be of some importance for both sexes, but it is not the most important personal characteristic.

Figure 4: Profile plot of subjective importance of several potential mate characteristics

Source: PMOD survey of users of a major German dating-platform; N = 3,535; own calculation.

8 Translated from German by the authors.
Because respondents might not admit to the subjective relevance of physical appearance in a survey, we also analyzed an additional indicator: profile pictures and their effect on the interest of potential mates. Table 5 reports the average number of first contacts received by female and male users depending on whether or not their profile contained a picture. The rate of ingoing first contacts for men and for women was much higher when their profile contained a picture (women: 16.04 vs. 6.29 first contacts; men: 3.86 vs. 1.49 first contacts).

Table 5: Ingoing first contacts of online users depending on whether or not their profile contained a picture (means with standard deviations in parentheses)

<table>
<thead>
<tr>
<th>Profile picture</th>
<th>Female (SD)</th>
<th>Male (SD)</th>
<th>Overall (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6.29 (7.98)</td>
<td>1.49 (2.77)</td>
<td>3.55 (6.10)</td>
</tr>
<tr>
<td>Yes</td>
<td>16.04 (19.28)</td>
<td>3.86 (5.67)</td>
<td>8.71 (14.25)</td>
</tr>
<tr>
<td>Total</td>
<td>11.80 (16.16)</td>
<td>2.90 (4.86)</td>
<td>6.55 (11.84)</td>
</tr>
</tbody>
</table>

Source: PMOD logfile of users of a major German dating platform; N = 32,365; own calculation.

Figure 5 shows the same pattern in the form of a density distribution ranging from no ingoing first contacts to 10 first contacts. Presenting a picture on the profile led to a much higher number of first contacts for both sexes, especially for men: More than 60% of men without a picture were not contacted at all within the observation window, whereas less than 10% of women with a profile picture received no contacts. These differences show that presenting one’s picture impacts decisively on a user’s chances in the virtual dating market.

Figure 5: Density plot of ingoing first contacts by sex and presence of profile picture

Source: PMOD logfile of users of a major German dating platform; N = 32,365; own calculation.
In the next step, we analyzed contact behavior in relation to the body mass index (BMI) based on profile information on height and weight. Figure 6 compares the density distribution of female BMI (bright distribution) with the averaged BMI of women contacted by male users (dark distribution). Hence, this illustration compares the given attractiveness of women on the dating site with the attractiveness preferred by men. Men tended to contact women with a BMI lower than 25 more frequently than their actual availability on the platform would suggest. In other words, there was a high competition for females with this body mass index and little demand for women with a disadvantageous BMI of 25 and higher. Furthermore, women with a BMI of 25 and higher were contacted less than their presence would let expect.

Figure 6: Actual (dark) versus contacted (bright) female body-mass distribution (density plot)

Source: PMOD logfile of users of a major German dating platform; N = 32,365; own calculation.

A similar, yet less obvious pattern could be observed for contact rates of male BMI (see Figure 7). Males with a BMI between 25 and 28 were contacted more often by women than we would expect based on the actual male BMI distribution.

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9 The body mass is an approximate indicator of outward appearance and is calculated as: BMI = Mass (kg)/(height (m))^2. A BMI of 18.5–25.0 is usually conceived of as “normal” and favorable.
These indicators reveal that physical appearance plays an important role in the first contacts on the Internet. Stated preferences also show the importance of outer appearance for the users of online dating. One advantage of Web-generated process data becomes apparent here: Users might lie with regard to their height and weight or, if asked, with regard to survey questions, but observing the contacted users with their BMIs reveals their actual behavior, making this a good proxy for the relevance of physical appearance. Using this data, it was possible to illustrate that the belief that online dating is about physical appearance cannot be rejected. However, its relative importance in comparison with other users’ characteristics in the online profile and offline contexts needs further empirical investigation.

**Fact:** Within the PMOD online survey, we asked participants to rate how far seven potential reasons for the usage of the online dating platform applied to them. Figure 8 reports the relevance of a sexual relationship along with other potential personal goals. This includes questions about finding a partner for nonbinding to binding relationships like chatting, spending spare time with somebody, looking for a date, or finding someone for mar-

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**Translated from German by the authors.**
riage. Figure 8 demonstrates that there were no notable differences between men and women with regard to the stated possible goals. Obviously, men and women use online dating in order to establish very different relationship forms. But for both sexes, the most frequently stated reason for online dating was to find a serious partner and to establish a lasting relationship. Thus, the goal of realizing a sexual relationship is not the most important objective of online dating platform users, but as topics of sexuality are particularly sensitive, the data might underreport the true relevance of sexual interest. However, as the data reveal, men do seem to place more emphasis on sexuality than women.

Figure 8: Profile plot of reasons for using online dating services

Source: PMOD survey of users of a major German dating platform; N = 3,535; own calculation.

To summarize, the belief that online dating is mostly about sex has to be rejected. This turns out to be a myth, because there are other relevant reasons why men and women use online dating. Establishing a sexual relationship is only one of several reasons, although it is especially important for men.

Belief: Women adopt a passive role in contact initiation. Another belief in the media discourse is that women are the passive gender when it comes to contact initiation. The English Wikipedia, for example, states that “men are more likely to initiate online exchanges and are less choosy” compared to women (see Wikipedia entry for “Dating” 2011). This belief is accompanied by the everyday belief that women who are rare in the (online) mating market do not need to take the first step to initiate a relationship. Instead, women get many contact initiations from men. Thus, it is assumed that women “normally” wait until men try to get in contact and do not try to initiate contacts with men they are interested in.
Fact: Again, we used the PMOD log file data on users’ contact behavior. We defined whether a user of the dating site was active (more than 80% of all interactions were initiated), passive (less than 40% were initiated), or mixed (40-80% were initiated). A look at the message activity rate by sex (see Table 6) gives some empirical support for this belief: About 51% of men revealed an active contact behavior, but only 12% of women. Vice versa, only about 11% of men showed a passive behavior, but about 52% of women. The belief in gender-specific activity propensity holds true, even if it cannot be generalized to all men and women.

In a further step, we assessed the relation between a user’s activity and the so-called ingoing contact rate indicator (ICR). The degree of activity is defined as percentage of sent contact initiations by user out of all involved contact events. See table 6 for the calculation of percentage of active, passive, and mixed strategy users. The ICR (ingoing contact rate) is the average number of ingoing first contact offers in the observation window; the \( \text{ICR/month} \) is the average number of ingoing first contact offers within 30 days of registration (monthly rate).

Passive women had more first contact offers than active women. The same relation was found for men, but to a smaller extent. Women had an average ingoing contact rate of about four contacts per month, whereas men had at least one ingoing first contact per month. But active men had fewer first contact initiations than passive men. Women who had almost no ingoing first contacts seemed to drop their passive role and become more active. For men, it was the other way round: Men who received enough first contact initiations from women did not have to be active themselves and could move into a more passive role.

**Table 6:** Contact initiation activity by sex and frequency of incoming contact offers

<table>
<thead>
<tr>
<th>Contact initiation</th>
<th>Men</th>
<th></th>
<th></th>
<th>Women</th>
<th></th>
<th></th>
<th>Overall</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a_1</td>
<td>%</td>
<td>ICR</td>
<td></td>
<td>%</td>
<td>ICR</td>
<td></td>
<td>%</td>
<td>ICR</td>
</tr>
<tr>
<td>Passive</td>
<td>0.0 ≤ a_1 ≤ 0.2</td>
<td>11.31</td>
<td>6.21</td>
<td>1.27</td>
<td>52.32</td>
<td>17.19</td>
<td>5.45</td>
<td>28.15</td>
<td>14.59</td>
</tr>
<tr>
<td></td>
<td>0.2 ≤ a_1 ≤ 0.4</td>
<td>9.78</td>
<td>5.90</td>
<td>1.73</td>
<td>1.38</td>
<td>9.34</td>
<td>3.32</td>
<td>12.90</td>
<td>7.80</td>
</tr>
<tr>
<td>Mixed</td>
<td>0.4 ≤ a_1 ≤ 0.6</td>
<td>13.17</td>
<td>3.95</td>
<td>1.01</td>
<td>10.96</td>
<td>6.11</td>
<td>2.57</td>
<td>12.26</td>
<td>4.74</td>
</tr>
<tr>
<td></td>
<td>0.6 ≤ a_1 ≤ 0.8</td>
<td>14.30</td>
<td>4.06</td>
<td>0.96</td>
<td>6.47</td>
<td>5.75</td>
<td>1.90</td>
<td>11.09</td>
<td>4.47</td>
</tr>
<tr>
<td>Active</td>
<td>0.8 ≤ a_1 ≤ 1.0</td>
<td>51.43</td>
<td>1.03</td>
<td>0.27</td>
<td>12.87</td>
<td>1.16</td>
<td>0.66</td>
<td>35.60</td>
<td>1.05</td>
</tr>
<tr>
<td>Overall</td>
<td>100.00</td>
<td>2.91</td>
<td>0.72</td>
<td>100.00</td>
<td>11.81</td>
<td>3.91</td>
<td>100.00</td>
<td>6.56</td>
<td>2.03</td>
</tr>
</tbody>
</table>

*Source:* PMOD log file of users of a major German dating platform. Sample of active users (men = 7,430 and women = 5,178).

In summary, the belief that women are more passive in terms of contact initiation indeed holds true. However, both men and women will move to a more active contact strategy when they do not get enough ingoing first contacts.

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11 This analysis was originally conducted by Jan Skopek (2011) as part of his doctoral thesis. It is based on observations of interactions in the same German database during the first 6 months of 2007. Calculation: \( \text{ICR/month} = 30 \times \text{ICR/t} \), when t is the number of days during which the profile is registered within the observation window.
2.4 Beliefs and facts on the offline impact of online dating

Belief: Online dating does not work. “Online dating is just not real” \(^{12}\) (Baum 2009). Such expressions are widespread in the public discourse on online dating. But what does “real” mean in this context? It refers to how far online dating works when it comes to finding a partner in real life. As discussed above, many people do not believe that the person you get to know on a dating platform is the same person you will associate with later in “reality.” In other words, online dating is often assumed to have no offline impact. An offline relationship based on online dating, however, does not necessarily have to be a romantic long-term relationship. It might be a sexual relationship or a friendship based on shared leisure-time activities.

Fact: In order to assess whether this belief is a myth or not, we analyzed the appropriate items in the PMOD online survey. About one-third of male respondents and 44% of female respondents reported having previously found a partner via the Internet (see Table 7).

Table 7: I have found a partner online before (column-wise percentages)

<table>
<thead>
<tr>
<th>I have found a partner online before</th>
<th>Male</th>
<th>Female</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>67.88</td>
<td>55.71</td>
<td>62.98</td>
</tr>
<tr>
<td>Yes</td>
<td>32.12</td>
<td>44.29</td>
<td>37.02</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>1,569</td>
<td>1,059</td>
<td>2,628</td>
</tr>
</tbody>
</table>

Source: PMOD survey of users of a major German online dating platform; \(N = 3,535\); own calculations.

Thus, mate search on the Internet can indeed deliver real partners. In a next step, we asked respondents to tell us what kind of relationship they had had with the partner they had found (Figure 9).

Figure 9: Found someone for…

Source: PMOD survey of users of a major German dating platform; \(N = 3,535\); own calculation.

\(^{12}\) Translated from German by the authors.
Both sexes had found romantic partnerships and sexual relationships. Finally, we asked respondents whether the partner they met on the Internet had fulfilled their expectations. Table 8 indicates that at least 56% of respondents reported that their expectations were fulfilled at least sometimes, often, or even every time.

Table 8: Were your expectations fulfilled when you met the partner offline?

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>139</td>
<td>11.17</td>
</tr>
<tr>
<td>Seldom</td>
<td>404</td>
<td>32.48</td>
</tr>
<tr>
<td>Sometimes</td>
<td>530</td>
<td>42.60</td>
</tr>
<tr>
<td>Often</td>
<td>150</td>
<td>12.06</td>
</tr>
<tr>
<td>Every time</td>
<td>21</td>
<td>1.69</td>
</tr>
<tr>
<td>N</td>
<td>1,244</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: PMOD survey of users of a major German dating platform; N = 3,535; own calculation.

Hence, the belief that “online dating does not work” can clearly be rejected. It turns out to be a myth: Men and women often find partners online for different offline purposes, and a fulfillment of their expectations is by no means uncommon.

Belief: Only a negligible subpopulation uses the Internet for mate search purposes. Despite a growth in advertising and media reception, some people still regard the Internet as negligible and abnormal when it comes to romantic or sexual matters. A widespread belief regarding online dating and finding a partner via the Internet in general is that only a few, specific or even “suspect” people use this type of mate search (see Rieke 2011). The “normal” way of finding a partner is still assumed to be via offline friendship networks, one’s workplace, or educational institutions. This assumed normality still leads to the idea that only a few people will deviate from the common way of finding a mate. Nonetheless, it is not unusual to discover that acquaintances use the net for mating purposes, but they will often confess this only under the seal of secrecy. In sharp contrast to these opinions, the media and advertising draw a picture of the Internet as an enormously successful way of searching for a mate that results in a significant number of partnerships. Whereas some research has addressed how many individuals in a country use the Internet to find a partner (see Bajos/Bozon 2008; Brym/Lenton 2001; Fiore/Donath 2005; Hardie/Buzwell 2006; Sautter/Tippett/Morgan 2010), there is no clear answer to the question of how many couples this actually produces.

Fact: Because the assumption that few couples actually emerge from online mate search refers to the total population, representative data on actual couples is needed to assess its validity. Hence, we drew on representative information derived from the pairfam survey. Along with other questions, participants in this study (born 1970 or later) were asked to name the context in which they had found their actual partner. As Table 9 shows, 5.45% of all couples within the representative offline sample first met online and about 9% of the members of the 1990-1994 birth cohort found their partners online. This is a fairly conservative estimate, because actors tend to hide this fact intentionally so that the Internet will play an underrepresentative role in the retrospective couple history. Furthermore, the data analyzed were collected in 2008. It can be assumed that more current data will
reveal an even more intensive diffusion. At any rate, we can see that the belief that only a negligible number of couples emerge from online mate search does not hold true, at least for the younger birth cohorts surveyed by the pairfam panel. Future analyses will show whether the Internet will grow in importance for mating processes, and whether the assumption that only a marginal subpopulation use the Internet for mate search is a myth.

Table 9: Ways of finding a partner by birth cohort in different contexts (column-wise percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School, training, work</td>
<td>26.60</td>
<td>22.07</td>
<td>27.64</td>
<td>24.96</td>
</tr>
<tr>
<td>Hobby, club, sport</td>
<td>10.97</td>
<td>8.03</td>
<td>11.18</td>
<td>9.86</td>
</tr>
<tr>
<td>Friends/Acquaintances</td>
<td>30.33</td>
<td>39.41</td>
<td>40.68</td>
<td>34.77</td>
</tr>
<tr>
<td>Relatives</td>
<td>4.61</td>
<td>5.48</td>
<td>2.80</td>
<td>4.77</td>
</tr>
<tr>
<td>Via the Internet</td>
<td>3.89</td>
<td>6.46</td>
<td>9.01</td>
<td>5.35</td>
</tr>
<tr>
<td>Vacation</td>
<td>2.41</td>
<td>1.88</td>
<td>1.86</td>
<td>2.16</td>
</tr>
</tbody>
</table>

N 1,823 1,332 322 3,477

Source: Pairfam data (N = 3,729). Own calculations.

Belief: Romantic relationships constituted online are no “real” relationships. As discussed before, many people believe that seeking a partner online cannot provide a stable and lasting partnership. It is assumed that partnerships initiated online are mostly short and not as deep as relationships that began offline. Online dating is often regarded as being “just for temporary enjoyment, not a lifetime of happiness” (User loenex 2009). As a result, many believe that the Internet cannot lead to a long-lasting partnership. “Real” relationships are considered to emerge in the “real world” and not on the Internet.

Fact: Tables 10 and 11 report different subjective indicators based on pairfam items. Table 10 compares couples who met online with couples who met offline. A subjectively relevant indicator is whether the partners have declared their love to each other.

Table 10: Reciprocally stated love in the relationship (column-wise percentages)

<table>
<thead>
<tr>
<th>Declared their love to each other</th>
<th>Offline</th>
<th>Online</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>94.62</td>
<td>93.18</td>
<td>94.48</td>
</tr>
<tr>
<td>No</td>
<td>5.38</td>
<td>6.28</td>
<td>5.52</td>
</tr>
</tbody>
</table>

N 1,971 220 2,191

Source: Pairfam data (N = 3,729). Own calculations.

Another indicator is whether the couple plans to set up a common household (see Table 11). Neither indicator revealed any important differences between couples who met online or offline.
Table 11: Future plan for common household (column-wise percentages)

<table>
<thead>
<tr>
<th>Common household planned</th>
<th>Offline</th>
<th>Online</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Not at all</td>
<td>23.03</td>
<td>29.51</td>
<td>23.67</td>
</tr>
<tr>
<td>2</td>
<td>25.11</td>
<td>27.87</td>
<td>25.39</td>
</tr>
<tr>
<td>3 Partly</td>
<td>21.94</td>
<td>18.85</td>
<td>21.63</td>
</tr>
<tr>
<td>4</td>
<td>24.48</td>
<td>17.21</td>
<td>23.76</td>
</tr>
<tr>
<td>5 Absolutely</td>
<td>5.44</td>
<td>6.56</td>
<td>5.55</td>
</tr>
</tbody>
</table>

N 1,103 122 1,225

Source: Pairfam data (N = 3,729). Own calculations.

Evidently, the belief that relationships initiated online are less real than those constituted offline is a myth, at least in terms of subjective appreciation or future plans.

Belief: Socio-structural dissimilarities are promoted by the absence of social barriers. Meeting and mating in real life often takes place in socially structured contexts such as school, university, or the workplace. It is often assumed that the Internet is characterized by an absence of social barriers that would influence the demographic characteristics of couples: “These social networks and free online dating and matchmaking websites have eliminated the barrier caused by distant geographic location, thereby allowing people to find and meet other people from all walks of life and be social, even to those on the other side of the planet” (Goodwizz 2010). The consequence, of course, is that social inequality is expected to diminish in the process of assortative mating: “As the use of online dating services grows, people whose paths never would have crossed offline now regularly meet and have meaningful exchanges in the virtual world” (Anwar 2011). Hence, it is often assumed that partners in couples who met via the Internet will differ more in socio-structural terms than partners in couples who met offline. Thus, it is supposed that members of these online couples will differ more in characteristics like age, education, social background, and living standards.

Fact: We again used the pairfam database of 12,402 persons and 3,729 partners and computed several indicators for these actors and partners. Table 12 reports the association measures for several socio-structural indicators in the couples. The composition of couples who first met online or offline did not differ as much as one might expect. Even though the Internet is free of institutional barriers and theoretically anybody can interact with anybody else, there was a clear pattern of couple similarity. Particularly striking was the similarity in partners’ age. The correlation between men and women who found each other online was even higher than that between couples who met outside the Internet \((r = 0.78 \text{ vs. } r = 0.66)\). There are some possible explanations for this finding: First, the Internet itself is segmented by age. Some platforms are used more frequently by older people; others, more often by younger people. Second, due to the ‘digital divide’, users of the World Wide Web and couples who meet through it are generally younger than couples meeting offline. Nonetheless, sociologists have shown that the older people are, the less age homogeneity can be expected (see Skopek/Schmitz/Blossfeld in this issue). Third, some couples might have met in a matching platform that makes suggestions based on similar age. Fourth, the users might have similarity preferences that are easier
to realize within virtual environments. Table 12 reports differences of education in couples who met online or offline. Surprisingly, the differences were not very strong. Despite the absence of social barriers, people still try to find a partner with a similar level of education.

**Table 12**: Measures of association on couple level

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Online</th>
<th>Offline</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.78</td>
<td>0.66</td>
<td>Pearson's $r$</td>
</tr>
<tr>
<td>Education (CASMIN)</td>
<td>0.29</td>
<td>0.39</td>
<td>Kendall's Tau</td>
</tr>
<tr>
<td>Education (years)</td>
<td>0.55</td>
<td>0.65</td>
<td>Pearson's $r$</td>
</tr>
<tr>
<td>Labor status</td>
<td>0.12</td>
<td>0.14</td>
<td>Cramer's $V$</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.15</td>
<td>0.31</td>
<td>Cramer's $V$</td>
</tr>
<tr>
<td>BMI</td>
<td>0.19</td>
<td>0.05</td>
<td>Pearson's $r$</td>
</tr>
</tbody>
</table>

*Source:* Pairfam data ($N = 3,729$). Own calculations.

Employment or marital status also revealed only very small differences between couples meeting online or offline. Hence, we have to clearly reject the belief that the absence of social barriers online promotes dissimilarity for couples. This belief was exposed as a myth.

### 3. Conclusion

In this paper, we summarized prevalent opinions on online mate choice in order to confront them with empirical facts and find out which beliefs are actually myths and which seem to be adequate perceptions of social reality. We analyzed a broad range of (online) newspapers, blogs, online reference works, and discussion forums. The most striking beliefs were extracted and assessed empirically on the basis of different data. Although we found a lot of stereotypes on finding partners online that have mostly negative connotations, most of them do not correspond to empirical reality – at least not in the way they are discussed by the general public. Some of those beliefs might have been appropriate once, but are now outdated and have become myths. Hence, time is a relevant dimension when evaluating common ideas about online mate choice, because the practice of online mate search seems to be evolving faster than its public image.

Overall, the ten beliefs discussed imply at least three normative preconceptions of mate choice that are put into question by the new meeting and mating possibilities provided by the technical and social innovation of the Internet. The first is that encountering a partner should be a matter of fortune; the second, that face-to-face interaction is a necessary precondition for the development of a serious or “real” relationship; the third, that partnership formation should take place in a “normal” environment, meaning physical space. The differentiation between online and offline daters, online and offline dating, and online and offline couples is losing its analytical utility. Couples might meet offline but transfer the first steps in consolidating their relationship online (for example via Facebook), or they might meet online due to offline friendship networks (friends of friends). People search for attractive partners on the Internet, they cheat on each other, and they continue to (re-)establish social barriers. In contrast to the statement heading this article, online mate choice is “real”. Whether and how far this reality influences the reality of
mate choice remains to be seen. Further research will have to analyze to what extend beliefs and facts vary according to cultural backgrounds, and cross-national comparisons would be useful in this regard. But future work on this topic has to take into account that a “theory effect” emerges whenever the media eclectically receive scientific findings on online mate choice: Scientists themselves can become the source of the very myths they are trying to question.

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