Do Women Pick Up Lies before Men?
The Association between Gender, Deception Patterns, and Detection Modes in Online Dating

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Abstract

Due to its particular conditions, the Internet increases opportunities for lies and deception compared to offline interactions. In online dating, misrepresentation of the self is an issue of particular relevance. Previous studies have shown that searching for a mate online is accompanied by a high risk of being deceived. This paper focuses on the rarely-considered perspective of the receivers of deception. Our study will first investigate deception patterns of men and women in online dating profiles. In a second step, modes of detecting deception (e-mail, telephone, face-to-face, etc.) are analyzed. Using online survey data of 3,535 users of a German dating site, results show (1) gender-specific deception patterns: Women are more likely to misrepresent their physical attractiveness; men are more likely to misrepresent information on marital status, intended relationship, and height. (2) These gender-specific deception patterns are associated with specific detection modes. Women are more likely to detect specific male deceptions during e-mail communication in an early stage of dating, whereas men are more likely to detect specific female deceptions at the first face-to-face meeting. These results highlight the link between different kinds of deception, characteristics of the receiver and its detection via different communication technologies. Implications of the results for the mating process are discussed.

Keywords: Deception, Communication Technologies, E-Dating, Correspondence Analysis

Introduction

Lies and deception are as integral an element of the social as cooperation and trust. They occur in everyday life in a variety of social situations, ranging from economic transfers to romantic interactions, and to varying degrees, from negligible cheating to serious fraud. With the spread of web-based communication practices, issues of deception and fraud have become even more relevant, and hence a particular object of research interest (cf. Whitty and Joinson 2009; Pratt et al. 2010). Romantic interactions online are no exception from this development, as they are also increasingly discussed with regard to romance scams and identity fraud (cf. Rege 2009; e.g. Toma and Hancock 2010; Toma, Hancock and Ellison 2008; Hancock, Toma, and Ellison 2007; Ellison, Heino and Gibbs 2006; Gibbs, Ellison and Heino 2006; Zillmann, Schmitz, and Blossfeld 2011). Whereas the extent of deception and its logic have found major consideration in the online dating literature, research on the *detection* of deceptive information by deception receivers has been sparse.

Based on recent work on the relation between communication medium and deception detection (Hancock, Woodworth, and Goorha 2010), we assess to what extent communication technologies affect gender-specific practices of deception detection. To this end, we use online survey data of 3,535 male and female users of a major German dating site and answer the following research questions: (1) Are there gender-specific patterns of deception in users' online dating profiles and (2) are those patterns associated with gender-specific detection modes? By detection mode we mean the communication methods used to reveal a deception, namely e-mail, telephone, face-to-face, and other methods.

In this paper, we first discuss deception and its detection in online dating. Second, we describe the data and measurements used. Subsequently, we will present descriptive results on men's and women's deceptive profile presentation using an indirect questioning technique, and multivariate results on deception *patterns* and their *association* with different modes of detection using multiple correspondence analysis. Results are discussed in the light of previous findings on

deception detection and with regard to the implications for gender-specific challenges when searching for a mate online.

Deception in Online Dating

Due to the architecture of online dating sites, self-presentation – especially in the user profile, but also in subsequent communication via e-mail messages or a chat system – is a major requirement for mating on the Internet, as it is a means for users to convey information about themselves to other actors. On the basis of their information, other users evaluate them and decide if it seems promising to contact them or answer an incoming contact from them. Therefore, at least one ideal-typical aim can be given for self-presentation on dating sites: Users will want to attract a maximum of attention from relevant partners by portraying themselves as interesting and attractive (cf. e.g. Ellison, Heino, and Gibbs 2006). A combination of the users' complete control over self-presentation, and respondents' reliance on this presentation, leads to an increasing risk of deception, e.g., responding to a profile which does not fully or sometimes even at all correspond to reality.

The problem of strategic self- and misrepresentation has found particular attention in the various collaborations of Ellison, Gibbs, Hancock, Heino and Toma (Ellison, Heino and Gibbs 2006; Gibbs, Ellison and Heino 2006; Hancock, Toma and Ellison 2007; Toma, Hancock and Ellison 2008). Overall, the findings of this line of research indicate that, rather than fundamentally misrepresenting important characteristics, users of dating sites 'optimize' their profile in accordance with their expectations of what potential partners might look for. Zillmann, Schmitz, and Blossfeld (2011) were able to show that users deceive corresponding to their own characteristics or overall 'mate value' (see Todd and Miller 1999), and that these deceptions follow the logics of mate markets, which can be described by the differential pressure that they impose on the agents to employ deceptive practices. Results show that men perceive their 'chances for attention' (Schmitz 2009; Zillmann, Schmitz, and Blossfeld 2011) basically as a function of the characteristics 'marital status', 'preferred relationship form', 'height' and status-relevant resources, whereas women perceive their 'chances for attention' basically as a function

of their physical appearance. However, the 'chances of exchange' (Schmitz 2009; Zillmann, Schmitz, and Blossfeld 2011) may be cancelled out, as breaking the 'promise' (cf. Ellison, Hancock, and Toma 2012) can significantly reduce chances for the realization of a (romantic) relationship. Thus, strategically using deceptive self-presentation involves negotiating the tension between attracting potential mates through a promising online presentation, and the anticipation of future face-to-face meetings which might reveal misrepresentations immediately and therefore constrain the excessive use of deception (Hancock, Toma, and Ellison 2007; Ellison, Heino, and Gibbs 2006).

Detecting the Deception

The detection of deceptive information is complicated, both for the receivers and for scientists trying to assess the extent and nature of deceptive behavior. From the perspective of users, the ubiquitous risk of deception is of particular relevance, as users searching for a mate are necessarily interested in the true state of a potential mate's characteristics, and want to avoid wasted investments, be they financial, temporal or emotional. There is a substantial body of literature within social psychology and sociology on lie detection and signals of trustworthiness in face-to-face situations (see e.g. Gambetta and Hamill 2005; Ekman and O'Sullivan 1991; Ekman 1992; Ekman 1996; DePaulo, Zuckerman, and Rosenthal 1980). However, research on deception detection and signals of trustworthiness within online environments – which differ in many cases from offline settings – is rare.

Since identity is a hidden quality online but essential for evaluating the interaction partner (Donath 1999), how can a user decide whether another user is trustworthy and credible? The particularly precarious problem is that offline symbols of trustworthiness (such as lifestyle, level of education, beauty, etc.) are the most common objects of online deceptions (cf. Donath 1999; Ellison, Hancock, and Toma 2012). Online daters often have to resort to their experience, their knowledge or simply to their 'gut feeling' when it comes to an online encounter.

Usually, research on deception relies essentialy on self-reported data, that is, "asking potential liars to tell the truth about lying" (Lucid 2009: 45; Toma, Hancock, and Ellison 2008). To overcome associated limitations and problems of biased measures due to social desirability, the studies of Hancock, Toma and Ellison (2007) and Toma, Hancock and Ellison (2008) compared online dating profile information with a sample of offline measurements on the same users. An alternative approach is suggested by Zillmann and Schmitz (2012), who used indirect questioning, in the form of asking respondents about their *experiences* with other users' deceptive profile presentations, and compared it with data based on direct questioning (which asks respondents about their own deceptive behavior). They were able to show that indirect questioning can be considered as being unaffected by the social desirability bias, as it shows more gender-specific covariance than direct questioning, which can, conversely, essentially be described by a dominance of social desirability.

A relevant set of auxiliaries for the user's deception detection is constituted by the various communication technologies that are involved in the online dating process. Usually, users move through a series of communication methods, from the dating system's internal messages to personal e-mail to the telephone, and finally to face-to-face situations (McKenna, Green, and Gleason 2002; Merkle and Richardson 2000).

Carlson et al. (2004) discussed factors that affect practices of deception and their detection in mediated communication contexts: (i) characteristics of the medium, (ii) characteristics of the deceiver and (iii) characteristics of the receiver. Communication technologies can be differentiated with regard to their synchronicity, recordability, and the degree to which copresence differentially affects deceptive practices (Hancock et al 2004; Walther 1996). Due to the same mechanisms, different communication technologies also offer varying possibilities of *detecting* deception and fraud (cp Hancock, Woodworth, Goorha 2010). A recent work from Hancock, Woodworth, Goorha (2010) compared the relation between communication medium, motivation and deception detection using experimental comparisons of computer-mediated communication (CmC) and face-to-face (FtF) communication. It turned out that the

communication medium itself does not affect detection accuracy and the receiver's truth bias (O'Sullivan 2003) was not affected by the communication medium. Extending the work mentioned, we add a fourth analytical factor which we assume as being of relevance for the relation of deception and deception detection. Deceptions can be analytically differentiated in (iv) physically observable and unobservable traits. Deceiving with regard to one's height, weight or gender would represent examples of the former, deceiving with regard to motivations or social status are examples of the latter. This observability can be conceptualized as a function of the employed communication medium. Hence, we expect that the detection of certain kinds of deception is associated with certain communication technologies. More specifically, we assume that observable deceptions require personal encounters for their detection, whereas unobservable traits can be detected before meeting face-to-face.

Research on deceptive practices could show that men and women differ regarding their situation in the mate market, and therefore also differ with reference to what they lie about (cp. Zillmann and Schmitz 2012). We assume the same characteristic 'gender' will also be a relevant characteristic of the receiver. Men and women do differ with regard to what they are deceived about, and the observability of these characteristics also varies with the communication medium. Hence, we expect the sexes to also differ with regard to when they can detect deceptions in interaction processes, that is, concerning which communication technologies enable men and women to detect deceptions relevant for them.

Data and Method

Data and Sample Characteristics

In order to analyze the patterns of men's and women's profile deception and its connection to different detection modes, we use data that was collected during an online survey on a major German online dating site. Skopek (2012) shows that the particular dating site is not a niche service, but rather comprises a comprehensive representation of users with very different characteristics. The data was collected on the platform from June 2009 to April 2010. All

registered and active[1] users of the dating site were invited to take part in the survey via an email message. A total of 3,535 online daters took part in the survey, which corresponds to a response rate of 10%.

Our sample contains 1,975 men (60%) and 1,315 women (40%)[2]. The average age is 40. The majority of the users (72%) are either single or divorced. 57% of the men are single, 21% are divorced. The majority of the women are single (44%), but a large proportion of women are divorced (34%). 70% of the online daters were not in a relationship at the time of the survey. However, there is a certain proportion who report being in a (married) relationship at the time (14%).

Measurement – Deceptive Self-Presentation and Detection Modes

In order to answer our first research question on gender-specific patterns of deceptive self-presentation in online dating, we employed an indirect questioning technique by asking online daters about their *experience* of deceptive profile presentation by other users. Since deception, especially one's own misrepresentation, is a sensitive topic and highly vulnerable to social desirability responses, we employed an indirect questioning technique instead of asking respondents directly about their own misrepresentation (see Zillmann and Schmitz 2012). The indirect questions on deceptive behavior were asked as follows: (1) "Have you ever been in contact with somebody on online dating sites who lied in his/her online profile?" Respondents could choose between the following answering categories: "yes, once", "yes, several times", and "no". Additionally, they could indicate that they had not yet been in contact with other users. If the respondents indicated that they already had been in contact with other users who had lied in their online profile (indicating "yes" either with one person or several persons), they were asked about which characteristics had been misrepresented by their counterpart(s): (2) "Which attributes exactly did the person (or persons) represent untruthfully?" Here we listed the different

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1   A user was considered an active user of the platform when he or she had logged in to the platform at least once during the last six months (with the beginning of our survey as reference point). Inactive users did not receive an invitation to the survey. In total, 35,235 users were invited to the survey.

2   There are some respondents who did not answer the question on their own sex (N=245 cases with missing data). For the following analysis we used listwise deletion to handle missing data.

profile characteristics that the respondents could potentially have been lied to about. Respondents could answer either with "yes" or "no".

If respondents indicated that they already have been in contact with other users, who misrepresented themselves in their dating profile (once or several times), we asked about the communication technology that enabled the detection of this misrepresentation. The question was formulated as follows and was adjusted to respondents who either experienced deception once or several times: "In what situation did it (mostly) become clear that the person (or persons) had represented themselves untruthfully?" Respondents could choose between the following answer categories: "during a face-to-face meeting", "during a telephone call", "during e-mail communication" and "other detection mode".

Results

Descriptive Results

Our first question concerns patterns of deceptive self-presentation in the user profiles on online dating sites. Figure 1 shows whether users of the dating site we analyzed had ever experienced deception.
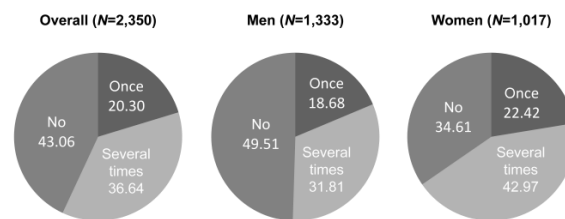

Figure 1. Deceptive Self-Presentation in Online Dating Using Indirect Questioning – Deception Experienced in Online Dating Profiles (percentages).[3]

About 20% of men and women stated that they had experienced deception only once. About 37% of the users (32% of men, 43% of women) had experienced lying several times. However, it is

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3 *Source:* Online survey of users of a German online dating site; own calculations. *Note:* Sample restricted to respondents who already have been in contact with other users.

also true that more than 40% of the users had never detected any lying by their counterparts at the time of being surveyed.

Table 1: Deceptive Self-Presentation in Online Dating – Experienced Misrepresentation of Profile Characteristics (percentages)[4]

Experienced misrepresentation of other user's regarding …	Overall	Men	Women	N_1	N_2		Phi
Height	17.9	12.3	25.2	413	2,312	***	0.166
Age	28.6	25.7	32.3	663	2,322	***	0.073
Weight	36.3	35.4	37.5	840	2,316		–
Desired Relationship	34.4	26.4	45.0	798	2,319	***	0.194
Marital Status	25.3	17.4	35.6	586	2,317	***	0.207
Children	13.9	14.2	13.5	321	2,312		–
Education	19.9	17.3	23.4	460	2,313	***	0.076
Profile Picture	32.3	30.0	35.2	749	2,322	**	0.055
Gender	5.2	6.3	3.8	120	2,312	**	0.054
Other Characteristics	22.5	20.1	25.7	521	2,318	***	0.067

Table 1 presents the experiences of men and women with deceptive profile characteristics. Results show that women lied most frequently about their weight (35%), profile picture (30%), and age (26%), which are characteristics concerning women's physical attractiveness. Men, in contrast, lied most often about the kind of relationship they were after (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%). Using data from indirect questioning also reveals that men lied more often than women with regard to all listed profile characteristics except for the number of children and their stated gender.
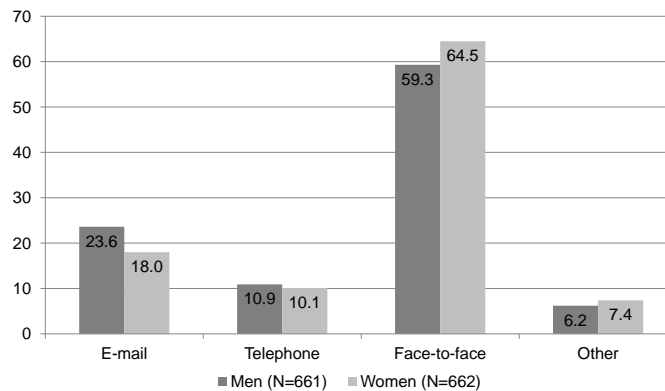

Figure 2. Detection Mode of Deceptive Profile Presentations by Gender (percentages)[5]

Finally, Figure 2 reports the communication mode that was used for the detection of other user's misrepresentation. Both the majority of women (65%) and men (59%) detect deceptive profile presentations in face-to-face meetings. Slightly more women (65%) than men (59%) state that they detected deceptions in a face-to–face context. Slight gender differences also occur with regard to the detection of lies via e-mail communication. More men (24%) than women (18%) stated that they usually detected lies of their counterparts during e-mail communication. Telephone and other detection modes seem to be less important in deception detection on online dating sites for both sexes.

According to these descriptive results, men and women do not essentially differ in the detection mode that enables deceptions. However, the multivariate associative structure of the variables (deception in specific profile characteristics, detection mode and gender) cannot be analyzed using these bivariate tables. In the subsequent section we provide a multivariate analysis that takes into account that men and women may differ with regard to when they detect *specific* deception patterns of the opposite sex within the communication process.

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5 *Source:* Online survey of users of a German online dating site; own calculations. *Note:* Only respondents who had already been in contact with other users and experienced deception at least once.

Multiple Correspondence Analysis

As a statistical procedure for analyzing and visualizing associative *patterns* of deceptive behavior in online dating and its detection via different communication technologies, we use multiple correspondence analysis (MCA). Multiple correspondence analysis is a technique suitable for our specific application, as we do not postulate a dependent variable. Instead, we want to explore the multiple relations between deceptions in different (profile) characteristics, their detection via different communication technologies, and gender. Similar to principal component analysis (PCA) with metric variables, multiple correspondence analysis (MCA) transfers categorical data and its associations into a latent spatial structure (Benzécri et al. 1973; Blasius 1994, 2001). In doing so it reduces the dimensionality of the chi square distances between the parameter values. These dimensions can be visualized as an n-dimensional space which, in turn, can be interpreted as a Euclidean surface. Similar features (variables values), i.e. those that describe similar actors, are found close together. Features that are dissimilar to each other, i.e. that describe dissimilar actors, are more distant from each other. This fact enables the interpretation of proximity and distance between categories within a graphically visualized space. In contrast to traditional multivariate techniques (such as regression models), this kind of statistics has no a priori assumptions about the data structure. The input data of the MCA may be non-negative values from contingency tables, composite tables, Burt matrices or indicator matrices. Whilst, for example, the PCA is based on a correlation matrix, the MCA decomposes the matrix of the standardized and weighted chi-square distances. It does not assume a correlative association between variables, nor an ordinality of the particular values.

Gender-Specific Deception Patterns in Online Dating

Dimension 1 explains 83% of the total solution, dimension 2 explains 4% of the geometric space as illustrated in figure 3. Both the structure of the "yes" answers (having experienced a lie with regard to the listed characteristic) and the structure of the "no" answers show a clear and defined pattern. Men are more likely to experience deception in the characteristics children, profile picture, and weight, a pattern that refers to the female need for presenting themselves as

physically attractive and without potential costs (e.g. in the form of child care). These characteristics point to specific scarce female resources that are particular objects of competition.
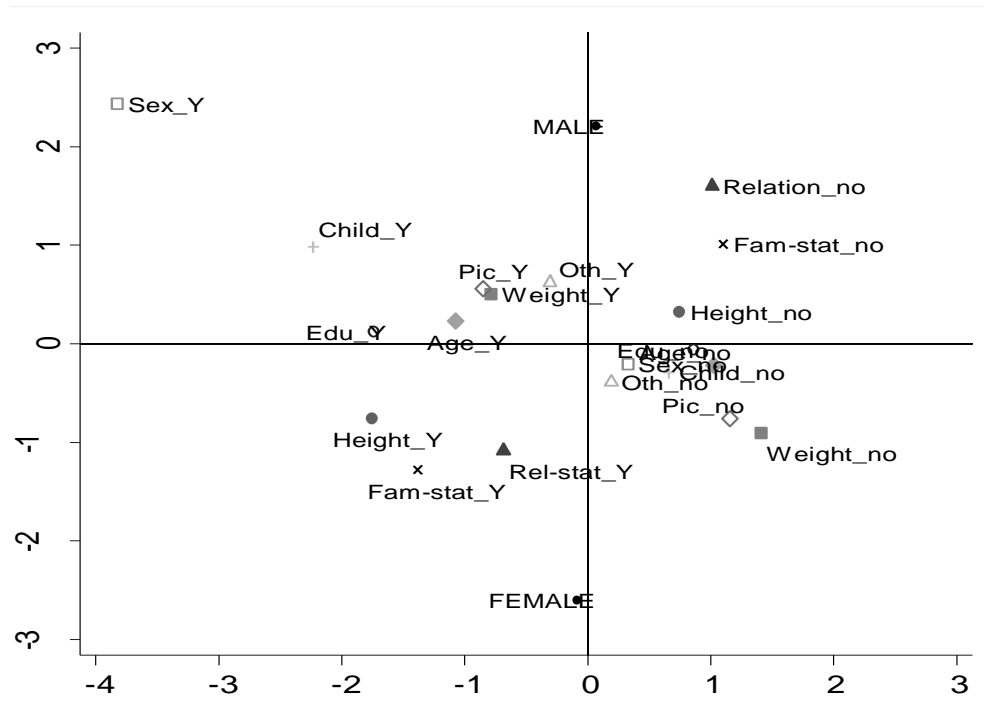

Figure 3. Patterns of Men's and Women's Profile Deception Using Multiple Correspondence Analysis (Model 1)[6].

Women are more likely to experience misrepresentations of men's height, their desired relationship and their marital status. As previous studies were able to show, men's height is a major characteristic in determining their mating success (cf. e.g. Skopek 2012; Pawloswki and Koziel 2002; Biernat, Manis and Nelson 1991; Shepperd and Strathman 1989; Lynn and Shurgot 1984; Gillis and Avis 1980). Given the widespread assumption that men are more often interested in a short-time (possibly sexual) relationship, the pattern can furthermore be explained as the result of systematic male concealment of both their true marital status as well as their future expectations.

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6 *Source:* Online survey of users of a German online dating site; own calculations. *Note:* Sample restricted to respondents who had already been in contact with other users and experienced deception at least once.

The "no" structure reveals a complementary pattern. Men are less likely to experience deception with regard to height, desired relationship and marital status, and women are less likely to experience deception with regard to profile pictures and weight.

The deception patterns described here confirm the findings in the literature concerning the gender differences in partner preferences which affect the mating success of the opposite gender. However, two characteristics seem to be notable because of their seeming gender-independence: education and age. An ad-hoc expectation might have suggested that women should be the subject of a male strategy of status-deception in which men claim to have a higher educational status than they actually do. The same ad-hoc expectation might also have suggested that women will try to enhance their "attention chances" (cf. Schmitz 2009) by pretending to be younger However, both genders experience deception regarding to these characteristics.

The explanation for the gender-unspecific relevance of age might be found in its general relevance: age is the characteristic with the strongest impact for pairing and differentiation (cf. Skopek et al. 2011). Hence, both genders might feel compelled to "optimize" their appearance with regard to their age. Other studies were able to show that women in online dating have the highest ingoing-contact-rate around the age of 23 (cf. Skopek et al 2011). Accordingly, the male experience of female age deception should mean that women claim to be younger than they actually are. The male age deception might be more complex, and needs further investigation, as the complementary age preferences of women do not have a common optimum.

Just like age, educational status appears in the MCA solution as gender-independent but can also be interpreted to have a gender-specific meaning and hence a gender-specific relevance on the mating market. Whereas male educational deception could be explained by the desire to signalize better resources on the market – an assumption that still needs further assessment – female educational deception needs particular investigation. Women's educational status could be associated with both resources as well as costs. It might be the case that women claim to have a

higher educational status than they really do, but given the high number of highly educated female online daters and males' preferences for women with the same or a lower educational level an additional interpretation might be appropriate. High female educational status might be considered as costly within the dating market and thus, women might conceal their actual educational status or even claim to have a lower educational status than they really do (cf. Zillmann et al. 2011).

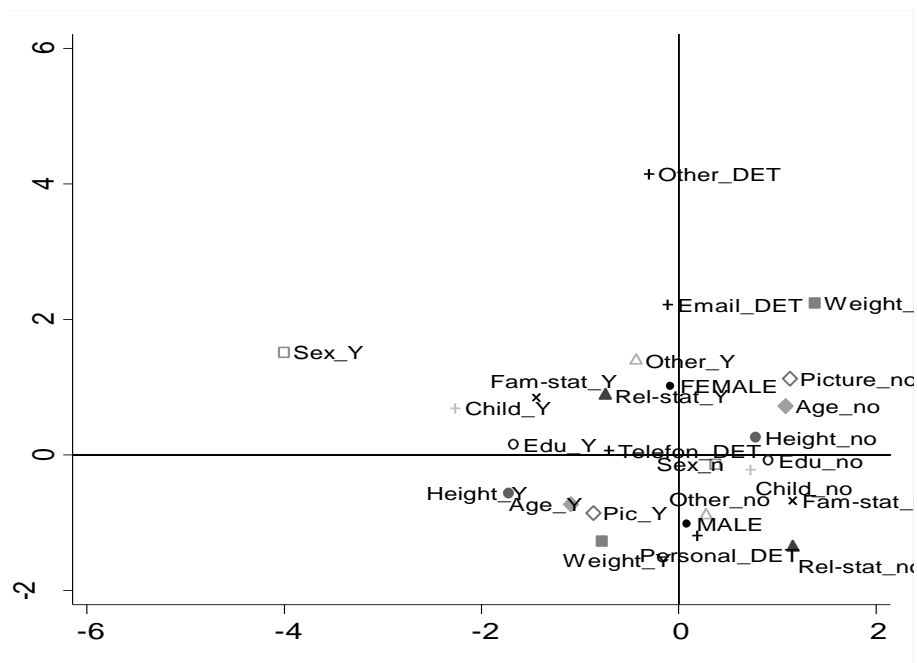**The Association between Deception Patterns and Detection Modes**

Figure 4. Deception Patterns and Detection Mode Using Multiple Correspondence Analysis (Model 2)[7]

The second correspondence analysis is extended by actively using the variable 'detection mode', with the options 'personal encounter', 'telephone', 'e-mail' and 'other'. This analysis can be interpreted as a control model, taking into account that the substantial patterns of model 1 may be the result of the unobserved effect of a differential detection mode: maybe men (or women)

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7 *Source:* Online survey of users of a German online dating site; own calculations. *Note:* Sample restricted to respondents who had alreadybeen in contact with other users and experienced deception at least once.

actually report specific kinds of deception simply because they detect them more often than other lies.

The first dimension of model 2 explains 76% and the second dimension 4% of the empirical variation. Note that in the graphical solution (Figure 4) 'male' and 'female' have changed position, which in itself does not have a substantial meaning. In this model men are still associated with experiencing lies about profile pictures and weight, and women are still associated with lies about family status and preferred relationship. However, three clear changes have taken place when compared to the previous model. First, experiencing lies about 'child' is now associated with women and experiencing lies about 'height' is associated with men. Furthermore 'age' has clearly moved from a gender-unspecific position to the male pole of the space. Obviously, the new variable 'detection mode' has an impact on the spatial structure. The impact of this variable can be explained by the position of its categories. The 'personal encounter' detection is now clearly associated with men due to the specific deceptions men experience and detect. 'E-mail' and 'other', in contrast, are now more strongly associated with the female position in the space, leading to a clear dimension along the y-axis from 'personal encounter' to 'telephone', 'mail' and 'other'. Hence, although the descriptive analysis showed that men and women only marginally differ in the general extent to which they utilize communication media for detecting lies (see figure 2), they do differ when one controls for the gender-specificity of deceptions in the multivariate analysis.

What is the common principle of these traits? Why did 'height' move from female to male, 'child' from the male to the female position and age from gender-neutral to the male pole? The traits that are associated with males are clearly ones that need face-to-face investigation for a final judgment. Weight, height, age and picture need a personal encounter (or videophone) for a conclusive judgment. The preferred relationship, marital status and having a child, in contrast, can already be detected using cultural competencies or intellectual inspection. The idea that the y-axis and hence the detection mode is associated with cultural competencies can be supported by qualifying the meaning of the 'other' category. 'Other' may refer to what Gibbs, Ellison and

Lai (2011) showed with regard to uncertainty reduction by using Google. This would require some informational skills (such as the capacity to reveal incongruencies) and sure instincts that may correspond to a general cultural capital. If our interpretation of the y-axis is adequate, the solution reveals that women can detect deception practices of the opposite sex relatively early in the communication process of mating, while men often need a personal meeting. The challenging point for research is that the resource perspective intermingles with the detection perspective. The indirect questioning technique (but also the direct questioning technique, see Schmitz et al. 2011) suggest that women experience more lies, and possibly more serious lies (with regard to family status and future commitment in form of the desired relationship), but as our analysis shows, they also detect these specific lies more early in the communication process. Thereby, the situation created by mating market pressure becomes partially relativized due to the clear gender-specific detection patterns process. Whereas women have to deal with the costs imposed by the fact that they interact with more possible partners – who may lie more often about the character of a possible relationship – men have to deal with the material costs of personally meeting potential partners.

Discussion

The objective of the present study was to examine the detection of deception through different media technologies. In particular we assessed the relation of gender specific deception patterns and detection modes in the specific communication context of an online dating market.

Our first research question was whether men and women differ with regard to which traits they deceive about. Using indirect questioning, we were able to show that men are more likely to experience female deception with regard to having children, their appearance in a profile picture, and weight, whereas women are more likely to experience male deception about their height, their desired relationship and their marital status. Although these patterns do not deviate from previous research on deceptive practices, they opened up the possibility to answer our second question: are specific deceptions associated with the communication media involved in online meeting processes, such as e-mail communication, speaking on the telephone, or meeting face-

to-face? Although men and women only marginally differ in the general extent to which they utilize communication media for detecting lies (according to the bivariate anaylsis), they do differ when one controls for the context-dependent gender-specificity of deceptions in the subsequent analyses. The multivariate analysis showed that specific female deceptions (weight, and appearance) are more likely to be detected by men via face-to-face inspection. Specific male deceptions (preferred relationship and marital status) are more likely to be detected by women earlier in the communication process.

Our analysis revealed a clear dimensionality of communication media which enhanced our insights into the way communication technologies differ: face-to-face, email and telephone did not appear as distinct categories, but rather span a continuous dimension that helps to describe both characteristics of deceptions and characteristics of receivers (male vs. female). Building on the work of Hancock, Woodworth, Goorha (2010) and Carlson, George, Burgoon, Adkins, and White (2004), we were able to show that the communication medium is strongly associated with the subject matter of deception and gender as a highly relevant attribute in the specific context of online dating. Hence, not the communication medium itself, but rather the interplay of communication context, subject matter of deception, and the affected receiver's characteristics can be conceived of as relevant factors for the detection of a deception.

A methodological advantage of the present study is that, in contrast to experimental designs in online dating, deceptions are "judged and produced" (Hancock, Woodworth, and Goorha (2010: 331) in the same real-life interaction context. This research setting can be described by a specific relation between sender and receiver. This is the case, as one can assume that, in online dating, more interest in future interactions exists than for example in artificial situations as designed in experimental settings. Furthermore, the interdependency of communication medium, subject matter, and sender and receiver characteristics can be assumed to consolidate within the actual course of the communication process, a fact that can be better assessed in a real-life example than in an experimental design which usually covers short-term interactions.

Further research has to test to what extent other relevant characteristics of the receiver of a deception (age, education, informational and cultural competencies etc.) may affect the detection of specific deceptions. From a sociological point of view this seems to be of particular relevance, as chances and risks of online dating might systematically differ between social classes. Future research has also to assess whether the "detection advance" of women is partially a consequence of advantageous female cultural competencies, or rather an effect of socially selective usage of dating sites: maybe the disproportionately high presence of highly educated women and less educated men in online dating sites creates a spurious association of gender and detection. A general future research perspective is to analyze these relations in other fields, for example online auctions or social web media.

Our results may also have implications for previous findings on the gender difference in the propensity to deceive in online dating. Several studies (e.g. Zimbler and Feldman 2011; Whittey 2002) showed that men are more likely to deceive in online dating than women. Further research has to show whether these findings are partially a result of gender-specific detection opportunities and competencies. However, our resultsrelativize the belief that women take particularly high risks in e-dating, as they can actually detect specific male deceptions relatively early in the online mating process by using communication media, whereas men will often have to personally meet their potential partners to be sure that they are interacting with a woman of the desired observable characteristics.

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