

AN EXAMINATION OF DECEPTIVE SELF-PRESENTATION IN ONLINE
DATING PROFILES

A Thesis

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by

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ABSTRACT

Online dating profiles are a popular new tool for initiating romantic relationships, although recent research suggests that they may also be a fertile ground for deception. The present study examines the occurrence of lies in online dating profiles and examines deception through a variety of theoretical lenses (affordances and limitations of computer-mediated communication, relational goals, and individual differences between users). Results suggest that the deviations between participants' online self-presentations and the truth tended to be small but relatively frequent. This is consistent with the Hyperpersonal model's assertion that online communicators engage in strategic and selective self-presentation. Results also suggest that, when deciding what to lie about, users take into consideration both the technical affordances of online dating portals, such as the editability of profiles, as well as the more social aspects of online dating, such as warranting and relational goals. Methodologically, this study is innovative in that it objectively verifies the accuracy of participants' descriptions, in addition to asking them directly whether they have lied. This increases the reliability of the data, and allows for the first objectively obtained measure of deception in online dating profiles.

BIOGRAPHICAL SKETCH

Catalina Toma was born in Brasov, Romania in 1981. She began her education at the Arts Lyceum of Brasov, where she studied piano and musical theory, and then attended the *Andrei Saguna* National College in the same city. In 2000, Catalina received a full scholarship to attend the University of Bridgeport, in Connecticut, at the time the most culturally diverse university in the United States. She graduated with a dual degree in Mass Communication and Literature & Civilization, as well as a minor in Psychology. More importantly, she developed a love of multiculturalism and a keen interest in understanding people. In 2004, she was admitted into the Master's program in Communication at Cornell University, where she currently pursues her research interests in the area of computer-mediated communication, at the intersection of psychology and technology. Catalina has had several jobs in public relations, tutoring, and university admissions, but she has most enjoyed working as a teaching assistant at Cornell. In the fall of 2006, Catalina will be joining the doctoral program in Communication at Cornell.

I would like to dedicate this thesis to my mother, Victoria Toma, who has recently started her doctoral program in Mechanical Engineering—at the age of fifty. In my eighteen years of schooling, I have not met anyone whose love of education is more genuine, nor more consuming. Her thirst for knowledge has never been quenched, and I am sure it will never be. I thank her for raising me with an appreciation of intellectual pursuits, and with a desire to constantly better myself.

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INTRODUCTION

Establishing close relationships is a basic human drive (Baumeister & Leary, 1995), with profound repercussions on life satisfaction and well-being (Myers & Diener, 1995). In particular, romantic relationships are a significant facet of social interaction, as evidenced by the fact that most adults are at one time or another married. People have traditionally invested a great deal of time and effort in “engineering” (Leone & Hawkins, 2006) romantic encounters, ranging from matchmaking, to arranging marriages, to placing personal advertisements in newspapers and, more recently, to engaging in online dating (Orr, 2004). The introduction of technology has brought new challenges and opportunities to dating and relationship formation. Users benefit from access to a wide array of potential partners, but they also face competition. They can carefully orchestrate their self-presentation in their profiles, but they have limited tools in doing so. They can even lie in order to enhance their appeal, but they need to manage those lies in anticipation of possibly meeting other daters in person.

The present paper is concerned with the process of engineering romantic encounters through deceptive self-presentation in online dating profiles. More specifically, it aims to explore how online daters deal with the temptation to deceptively enhance their self-presentation, while juggling the affordances of computer-mediated communication (CMC), as well as the constraints of their relational goals.

Deceptive self-presentation is of immediate interest to millions of subscribers of online dating services (Egan, 2003; Greenspan, 2003), who perceive it to be the biggest disadvantage of online dating (Brym & Lenton, 2001). Beyond that, however, the study of deception in online dating profiles has considerable theoretical and methodological appeal, which will be addressed systematically in this paper.

Theoretically, online dating provides a rich and nuanced context for studying deception, at the intersection of media effects, romantic relationships, and individual differences. In this paper, deception will be examined through the lens of these mediating factors. First, the technological constraints and affordances of online communication will be considered. Research to date (Walther, 1996) suggests that computer-mediated communication (CMC) enables selective self-presentation, which may have important implications for deception (Lea & Spears, 1995; Myers, 1987). Also, the specific setup of online dating services may influence the *kind* of deception in which users engage (Ellison, Heino, & Gibbs, 2006). Second, users' relational goals will be assessed as mediators of deception. Early romantic relationships present unique challenges and opportunities (Metts, 1989), such as high information-seeking and need for approval, that are expected to influence deception production. Lastly, individual differences will be considered. As suggested by prior research, users' gender (Lance, 1998; Woll & Cozby, 1987) and self-monitoring type (Snyder, 1974) may affect their deceptive behavior.

Methodologically, this study aims to identify deception in an innovative manner. Prior research has assessed deception mostly through participants' self-reports (i.e., by asking participants to tell the researcher when they have lied) (Hancock, Curry, Goorha, & Woodworth, 2004; Hancock, Thom-Santelli, & Ritchie, 2004), or through experimental manipulations (i.e., by asking participants to lie) (Hancock, Woodworth, & Goorha, in press). Both approaches require that researchers trust participants to report honestly about whether they are lying or not. This limitation has been noted in previous studies of deception in online dating (Gibbs, Ellison, & Heino, 2006; Hitsch, Hortacsu, & Ariely, 2004). The current study proposes to rectify this issue by developing objective measures for some of the information contained in participants' profiles (e.g., height, weight, age) while at the

same time collecting self-report data. Together, these two types of data will permit an examination of how self-reported deception relates to actual deception.

Lastly, this study aims to assess how much deception takes place in online dating profiles. Media accounts and public perceptions (Brym & Lenton, 2001) suggest it is rampant. However, scientific studies of deception in online dating profiles are still sparse, and rely solely on self-reports (Ellison, Heino, & Gibbs, 2006; Gibbs, Ellison, & Heino, 2006; Hitsch, Hortacsu, & Ariely, 2004).

LITERATURE REVIEW

Self-Presentation and Deception

In his seminal work, *The Presentation of Self in Everyday Life* (1959), Erving Goffman compared people to actors on a stage, inherently concerned with their public appearance and constantly trying to manage how others perceive them. Goffman suggests that self-presentation is fundamental to social interaction, as people package and edit their selves in order to make favorable impressions on others. This packaging is a creative process that takes into account the target audience and the context of the social interaction.

Self-presentation is defined as “behavior aimed at conveying an image of self to others” (Schlenker, 1980) and has as a primary goal influencing other people to respond in desired ways (Leary & Kowalski, 1995). As scholars of self-presentation have noted (Feldman, Forrest, & Happ, 2002), deception, defined as the intentional misrepresentation of information (Knapp & Comadena, 1979), is an inherent part of self-presentation. Self-presentational goals can be met by concealing pertinent information about the self, or by outright falsifying it. Feldman and his colleagues (2002) have shown that having a salient self-presentational goal (such as being perceived as likeable or competent) significantly increases the number of lies told by participants.

Perhaps nowhere are self-presentational goals more salient than in the dating arena. To be successful, daters must manage their presentation so as to appear likeable, competent, or desirable in some other way. Jones and Pittman (1982) identified two self-presentational strategies that apply to dating: ingratiation and self-promotion. Ingratiation is “a class of strategic behavior illicitly designed to influence a particular person concerning the attractiveness of one’s personal qualities (Jones & Wortman, 1973, pp. 235), whereas self-promotion refers to a class of self descriptive

communications that seek the attribution of competence rather than likeability (Jones & Pittman, 1982, pp. 241). While both men and women need to be likeable in order to attract desirable dates, research suggests that men may be more pressured to present themselves as competent (Ahuvia & Adelman, 1992; Hirschman, 1987; Hitsch, Hortacsu, & Ariely, 2004; Jagger, 2001; Lynn & Bolig, 1985; Woll & Cozby, 1987). These gender differences are discussed later; the point here is that presenting oneself strategically, either as likeable or competent, through ingratiation or self-promotion, is paramount when trying to attract romantic partners.

In the context of online dating, the “packaging” of the self becomes even more essential, as competition between daters is keen (online dating services have millions of subscribers), and the very format of the profile allows for limited information to be conveyed. Participants in Heino et al.’s (2005) study compared their online dating profile to a résumé, or a strategic tool intended for marketing their “best” selves rather than providing a completely candid representations of themselves. They also noted that online dating promotes a tendency to “shop” for people with the perfect qualifications. This, in turn, may propagate deception amongst those who want to appear “perfect.” Furthermore, online dating is highly amenable to the “editing” of the self. Goffman himself differentiated between “cues given,” or information that people *want* to convey, and “cues given off,” or information people may not want to convey but leaks off anyway. As will be discussed in more detail later, online dating minimizes the occurrence of cues given off by giving users time to carefully select the information they wish to present, and by allowing them to modify that information as much as they wish. Online daters have the tools to deceive and, as suggested by Feldman’s work, the motivation. This preliminary analysis suggests that deception may be frequent in online dating profiles.

Deception in Romantic Relationships

More so than in everyday life, self-presentation is postulated to be vital in the beginning stages of relationships, because daters will use any information available to decide whether to pursue the relationship (Derlega, Winstead, Wong, & Greenspan, 1987). Ekman (1985) differentiated between relationships with high levels of information seeking, in which parties are trying to learn as much as possible about each other, and relationships with low levels of information seeking, in which parties already know each other well and don't actively seek new information. Incipient relationships, such as those facilitated by online dating, display high levels of information seeking, and have been shown to make use of more falsification and distortion relative to established relationships (Berger, 1987; Ekman, 1985). Similarly, Metts (1989) suggests that deception may be increased in dating relationships because intimacy claims and probing are higher than in less restrictive relationships, such as friendship.

Another explanation for the widespread occurrence of deception in the beginning stages of romantic relationships is provided by DePaulo and Kashy (1998), who observed that people tell at least one lie in every three interactions with their romantic partners. According to the researchers, deception may stem from daters' insecurities about whether they are lovable, and from their desire to be admired and accepted. In an effort to impress their dates and gain approval, people may resort to deception. Along the same lines, Rowatt and his colleagues (1998) note that the uncertainty of being accepted or rejected by a potential partner drives people to go to extraordinary lengths to present themselves as appealing, such as resorting to deception. Buss (1988) concludes that the most frequently used strategy in attracting a date is to make oneself appear more attractive or competent than competitors.

Research suggests that people experience two opposing tensions when trying to establish romantic relationships. On the one hand, they wish to emphasize their positive attributes and present themselves as appealing. On the other hand, they feel the need to put forth their true selves, complete with quirks and shortcomings, because they seek understanding and unconditional acceptance from their significant others (Reis & Shaver, 1988). In their qualitative study of deception in online dating profiles, Ellison and her colleagues (2006) also found that online daters report being torn between a desire for authenticity and a desire for impression management.

Relationship goals should constitute a mediating factor in this tension between accuracy and optimizing self-presentation in online dating profiles. A desire for unconditional acceptance (Reis & Shaver, 1988) and for authenticity (Ellison et al., 2006), presupposes an interest in establishing committed, supportive relationships. However, the goals of online daters can fall anywhere on the commitment continuum, with daters seeking to simply meet people, establish casual relationships, or find a life partner. Daters looking for committed relationships should be more accurate than daters looking for casual relationships. If users are looking to build solid, long-term romantic relationships, it is only reasonable that they present themselves in an honest manner. If, on the other hand, users are motivated to pursue very brief, sexual relationships, they will be more likely to employ deception in order to portray themselves as appealing as possible (particularly since competition is fierce in the online dating arena). Moreover, in the latter case, deception detection is minimized, for reasons of the very brevity of the relationship pursued.

Deception and Romantic Relationships Online

The affordances and limitations of computer-mediated communication add a new layer of complexity to understanding self-presentation and deception in the context of dating. As Rheingold (1993) observed, “the way you meet people in

cyberspace puts a different spin on affiliation: in traditional kinds of communities, we are accustomed to meeting people, then getting to know them; in virtual communities, you can get to know people and then choose to meet them” (pp. 26-27). Online dating is much like shopping (Heino et al., 2005), in that one can browse through a multitude of profiles, analyze them, and then choose which people to actually meet and date. Furthermore, the information on which such decisions are made is strikingly different from the information one would get in a face-to-face encounter. First and foremost, the online environment carries limited cues compared to face-to-face communication (Sproull & Kiesler, 1986), prompting users to make decisions mostly based on textual information. Online dating profiles support photographs in addition to text; however, many users prefer not to upload photographs, leaving potential daters to judge the profile based only on text. Nonverbal cues such as voice pitch and intonation, eye contact, gestures, posture and body language are filtered out.

Because of this paucity of cues, early research on computer-mediated communication concluded that the medium was unable to convey socio-emotional information and to support interpersonal relationships (Culnan & Markus, 1987). CMC interaction was thought to be task-oriented, depersonalized and utterly inept at facilitating relational communication (Short, Williams, & Christie, 1976). More significantly, it was thought that the lack of nonverbal cues diminished CMC’s ability to foster impression formation and management (Kiesler, 1986). In the early days of CMC research, online dating would have been considered an oxymoron. Later research (Walther, 1992, 1994), however, disconfirmed these negative assumptions about CMC, suggesting that CMC’s limited bandwidth (capacity to carry cues) may simply retard the transmission of relational information, because it takes more time to exchange messages through a textual/verbal channel than in face-to-face. According to this social information processing perspective, impression formation and relational

development are certainly possible in CMC; they simply take longer than in face-to-face interaction.

A more recent approach by Walther (1996), the Hyperpersonal model, focuses on the affordances of CMC, rather than its limitations, and suggests that not only does CMC support impression management and relational development, but it actually boosts it to levels that may exceed those of parallel face-to-face activities. The Hyperpersonal model postulates that CMC supports strategic and controlled interaction which may result in exaggerated or idealized perceptions of others.

One of the key propositions of the Hyperpersonal Model is that the unique features of computer-mediated communication allow users to engage in selective self-presentation, a strategic, controlled and much optimized version of face-to-face self-presentation. It follows that self-disclosure may be less accurate, while self-presentation and identity manipulation may be enhanced online (Lea & Spears, 1995; Myers, 1987). The Hyperpersonal model postulates that two fundamental features of CMC—reduced communication cues and asynchronicity—allow users greater control over message production and thus facilitate mindful and deliberate self-presentation (Walther, 1996). Reduced-communication cues refers to the above-mentioned paucity of CMC cues, particularly the absence of nonverbal cues. Translated to the world of online dating, this means that users are spared some of the common predicaments of face-to-face daters who try to make a good first impression. While deciding how to present themselves in their profiles, online daters don't have to worry about their apparel, their body language, or about saying the right thing at the right time. Through re-allocation of cognitive resources (1996), online daters can put all their mental efforts into creating flattering profiles, instead of having to juggle the many mental tasks required by face-to-face interaction. Furthermore, CMC is editable, meaning that

users can go back and adjust their self-presentation, which puts them at a distinct advantage compared to face-to-face daters.

The combination of editability and reallocation of cognitive resources allows users to avoid “leakage”—that is, involuntary and undesirable cues, such as making a tactless comment or giving away a lie through stuttering. Scholars of deception (Ekman & Friesen, 1969) have suggested that nonverbal behavior is the least malleable and controllable, and the most likely to betray deception. Moreover, communicators have been shown to depend more heavily on nonverbal than verbal cues when attempting to detect deception (DePaulo, Zuckerman, & Rosenthal, 1980). In online dating, nonverbal behavior is filtered out, which, again, enhances users’ ability to self-present and may make deception detection more difficult.

A related benefit of computer-mediated communication, asynchronicity (Walther, 1996) ensures the relaxation of time constraints between profile creation and actual interaction with potential dates. During this time lag, users may formulate their ideas into more composed and thoughtful messages. They can plan, create and edit their comments, including deceptive elements, much more deliberately than they would in face-to-face first encounters.

Similarly, Carlson, George, Burgoon, Adkins and White (2004) recognize that certain features of CMC boost its deceptive potential. For instance, tailorability, or the ability to tailor the message to suit the audience, is optimized in CMC, because users have more time and perhaps mental resources to compose audience-specific messages. Also, CMC allows for rehearsability, or the ability to plan and edit messages at will before posting them. Online daters definitely benefit from rehearsability and tailorability, as they can analyze their desired date’s profile, and edit their own profile accordingly.

Some of the structural features of online dating services may also foster deception. For instance, online dating emphasizes those aspects of the self that can be quantifiable, leading to direct and unabashed questions about users' height, weight, age, and income (Ellison, Heino, & Gibbs, 2006). By most standards, such information is very private (particularly income), and may never come out in face-to-face interactions. Not comfortable divulging such information to perfect strangers, online daters may feel compelled to lie or skip the question altogether. Similarly, the structure of search parameters may encourage deception, particularly about age (2006). Since search engines use pre-determined age categories (e.g., 25-30, 31-35), users may be encouraged to present themselves as belonging to a standard age group (for instance, 30 instead of 31, or 45 instead of 46), so as not to be automatically filtered out of other daters' searches. Deception may also stem from inappropriate options for the profile's many multiple-choice questions. For instance, in answering how often they drink, Match.com users may choose from "I don't drink alcohol," "social drinker, maybe one or two," "regularly," or "no answer." Users may consider themselves social drinkers, but may have more than two drinks on social occasions. In this case, they can misrepresent themselves as having one or two drinks socially, when in fact they have more, or they can claim to be "regular" drinkers, when in fact they only drink on social occasions. Lastly, deception in online dating profiles may be increased because perceptions that other daters are lying may encourage users to lie as well, just to keep up and not be overlooked by comparison (Fiore & Donath, 2004).

There are, however, social and technical aspects of computer-mediated communication that may *discourage* deception. For instance, the medium is highly recordable, as opposed to face-to-face or even phone interactions (Hancock, Thom-Santelli, & Ritchie, 2004). Once accessed, online dating profiles may be saved and archived, thus preserving records of deception. Users may not feel comfortable

knowing that, if caught lying, they cannot possibly deny it. Anticipation of face-to-face interaction (Walther, 1994), or users' willingness to meet other daters in person, is another deterrent against deception. If face-to-face interaction is desired, deception about age and physical characteristics needs to be kept in check, or else it will be detected instantly. Subtle enhancement of physical attractiveness is possible through carefully selected photographs; however, such enhancement cannot exceed reasonable limits, because deception will be immediately spotted upon meeting the date in person. On the other hand, users who anticipate no future interaction are at liberty to create a completely new persona for themselves, replete with gender switching, severe age distortions and complete fabrications of values, profession, or education. However, it is unlikely that people who have no intention of ever meeting others face-to-face be paid subscribers of online dating services. The concept of anticipated face-to-face interaction is strongly related to relationship goals. As discussed earlier, we expect those who seek committed relationships to be more accurate in their self-presentation than those who seek less committed relationships or no face-to-face relationships at all.

Walther and Parks (2002) also introduced the concept of a warrant, or "the connection between who we are and who we claim to be on the Internet" (pp. 23). Warranting is the process of triangulating information contained in the disembodied online world with information from the offline world and, by its very nature, reduces opportunities for deception. The more verifiable information is, the less likely users are expected to lie. As noted earlier, online dating services provide few venues for triangulating information; rather, they are concerned with the anonymity of their customers, and go to great lengths to ensure that all names and contact information are left out of the profile. Nonetheless, a closer look at online dating profiles will reveal several warranting venues.

First, the presence of photographs constitutes a solid connection between one's online persona and one's physical self. Although all online dating services included in this study support the upload of photographs, none of them makes it mandatory. It is up to users to decide whether to forsake a certain degree of anonymity by posting photographs. It is expected that users who post photographs be more accurate in their profiles than users who do not, simply because they become recognizable persons who can be identified in the real world. With the spread of online dating, users' offline friends and acquaintances may stumble on their profiles and recognize them easily if they had posted a photograph. Presumably, users will not want to be caught lying by members of their social circle, and the less secretive they are about online dating, the more accurate they are expected to be in their profiles. In other words, if users tell members of their social circle that they have online dating profiles, they will be less likely to lie in those profiles, since they do not want their reputations tainted. Lastly, the more anonymous online daters feel, the more they are expected to lie in their profiles, since the warrant, or the connection between the text-based and physical self, is more tenuous.

Gender Differences

Extensive research in sociobiology and evolutionary psychology suggests that men and women use different strategies for enhancing their reproductive fitness, according to the requirements of their biological makeup (Ahuvia & Adelman, 1992; Hirschman, 1987; Hitsch, Hortacsu, & Ariely, 2004; Jagger, 2001; Lynn & Bolig, 1985; Woll & Cozby, 1987). Modern men look for youth and physical attractiveness, whereas women look for ability to provide and indicators of social status, such as education and career (Lance, 1998; Woll & Cozby, 1987). Research in the dating arena has shown that richer men tend to pursue more physically attractive women, even if they are not equally rich (Hitsch, Hortacsu, & Ariely, 2004). Similarly, men

with better occupations are more successful in attracting women, although the same is not true for women (2006). When reviewing personal advertisements, women have been shown to prefer older and financially secure partners, whereas men sought attractiveness and youth (Lynn & Bolig, 1985). Similarly, when marketing themselves in newspaper personals, men emphasized their financial resources, status and occupation, whereas women drew attention to their physical attractiveness and body shape (Ahuvia & Adelman, 1992; Hirschman, 1987; Jagger, 2001).

When it comes to understanding gender differences in deception, the Expectation-Discordance Model of relationship deception (Druen, Cunningham, Barbee, & Yankeelov, 1998) is a useful framework. The model postulates that individuals engage in deception to meet the expectations of attractive prospects. Men are thus expected to enhance their social status indicators, whereas women are expected to enhance their youthfulness and physical attractiveness. In other words, daters will lie in order to meet the desires of the opposite sex (Buss & Schmitt, 1993). This claim has received strong empirical support. In a study by Tooke and Camire (1991), men reported being more likely to feign commitment, sincerity and resource acquisition ability to attract women, while women reported lying more about their bodily appearance. Gibbs et al.'s (2006) study found that men reported deceptively enhancing their height—an indicator of physical strength and ability to protect, while women reported under-representing their weight—an indicator of physical attractiveness.

Physical attractiveness, however, may be a point of contention. Research shows that when looking for a date, people overwhelmingly desire a physically attractive person, regardless of their own level of physical attractiveness, and of their gender (Waister, Aronson, Abrahams, & Rottman, 1966). Similarly, 46% of men and 36% of women reported lying to an attractive member of the opposite sex in order to

initiate a date (Rowatt, Cunningham, & Druen, 1999). Physical appearance may be equally important for men and women.

The above mentioned gender differences in deception are expected to surface in online dating profiles. Men are expected to lie more than women about social status indicators (income, education, occupation), and women are expected to lie more than men about their age. Whether women lie more than men about physical attractiveness indicators will be a research question. As mentioned earlier, this study will add to the existing literature on deception in online dating profiles (Ellison, Heino, & Gibbs, 2006; Gibbs, Ellison, & Heino, 2006; Hitsch, Hortacsu, & Ariely, 2004) by objectively measuring levels of deception on the age, height, weight and income categories.

Self-Monitoring

Self-presentation tactics and further differences in deceptive tendencies can be explicated through the prism of self-monitoring (Snyder, 1987). The concept of self-monitoring refers to the extent to which people observe, regulate and control their public personae. Research by Snyder (1987) has differentiated between low and high self-monitors, the former striving for consistency between their public and private representations of the self, while the latter fostering multiple selves and effortlessly adapting them to the various social situations they engage in. Low self-monitors believe they have one true self, from which they find it hard and futile to diverge. High self-monitors are much like actors, in that they have multiple selves, or personae, that naturally come out in different social situations. Many differences between high and low self-monitors stem from this fundamentally divergent outlook on the self, ranging from career preferences, to choice of friends and lovers. According to Snyder (1987), high self-monitors value physical attractiveness, in themselves and others, and are likely to search for attractive dates. They are also very

activity-oriented, and prefer to date people who share a love for the same activities. On the other hand, low self-monitors value who the person is, rather than what the person does or looks like. They seek dates with similar outlooks on life and belief systems, and don't care much about physical attractiveness. When it comes to deception, high self-monitors lie more and better than low self-monitors.

Snyder's self-monitoring postulates have been empirically tested in a variety of face-to-face venues. Studies have shown that high self-monitors pay attention to and value physical appearance in prospective dates, whereas low self-monitors focus more on the desirability and consistency of the dates' internal dispositions (Glick, 1985; Snyder, Berscheid, & Glick, 1985). Similarly, Jones (1990) found that high self-monitors prefer sex appeal, social status, and financial resources, more so than low self-monitors, who prefer honesty, similar values, responsibility, faithfulness, and kindness. Rowatt et al. (1998) found that high self-monitors engaged in more deceptive self-presentation to a desired date than low self-monitors. Similarly, DePaulo and Kashy (1998) found that those who report being more publicly self-conscious and other-directed are more likely to report lying in their everyday interactions.

This study will test the above-mentioned propositions in the novel context of online dating, and of social acceptability of deception. High self-monitors are expected to find deception more acceptable than low self-monitors. They are also expected to engage in more deception, across the profile, and particularly on the physical attractiveness and social status categories.

HYPOTHESES AND RESEARCH QUESTIONS

By interviewing a sample of online daters, this study will address the hypotheses discussed earlier. They are summarized below:

H1: Online daters looking for committed relationships will be more accurate than online daters looking for casual relationships.

H2: Online daters who post photographs will be more accurate in their profiles than those who do not.

H3: The less secretive users are about online dating, the more accurate they are expected to be in their profiles. The more people from users' social circle are aware of their online dating profile, the more accurate the profile will be.

H4: The more anonymous online daters feel, the more they are expected to lie in their profiles.

H5: Men will lie more than women about social status indicators (income, education, occupation), and women will lie more than men about their age.

H6: High self-monitors will find deception more acceptable than low self-monitors.

H7: High self-monitors will engage in more deception than low self-monitors, across the profile, and particularly on the physical attractiveness and social status categories.

Additionally, the study will pose several research questions, as follows:

RQ1: How much deception occurs in online dating profiles?

RQ2: How acceptable is deception in online dating profiles?

RQ3: Are men and women equally accurate about their physical appearance?

METHODS

Online Dating Services

Profiles of the five most popular online dating services in the United States were examined: Yahoo Personals, Match.com, MSN Match.com (Match.com and MSN Match.com are essentially the same service, with one offered through the MSN portal), American Singles and Webdate. Online dating services that do not allow users to create their own profiles or to contact potential dates directly (e.g., EHarmony) were excluded from the sample.

The five websites selected share a number of format characteristics. All profiles include a variety of open-ended and multiple-choice questions, an unstructured “in my own words” section, and a photo upload tool (see Appendix 11 for a sample profile). The five services allow users to search for potential dates through website-specific search engines, and to contact them directly. Other than Yahoo Personals, all services charge a monthly fee for accessing other daters’ contact information, but none charge for setting up an online dating profile. All services are available nationally and do not cater specifically to any population niche.

The five services contain 17 common profile categories, henceforth referred to as “common questions.” These 17 categories are: age, height, body type, relationship status, eyes, hair, ethnicity, education, income, occupation, have children, smoking, drinking, religion, politics, interests and an “in my own words/about me” section. Additionally, each service includes a variety of unique profile categories, as follows:

- 1) *Yahoo Personals*: astrology, humor, languages, living situation, religious services, social setting, TV watching
- 2) *Match.com/MSN Match.com*: astrology, humor, languages, body art, best feature, hot spots, favorite things, last read, sports and exercise, common interests, exercise habits, daily diet, living situation, pets, turn-ons, turn-offs

- 3) *American Singles*: weight, astrology, languages, grew up in, relocate, my personality traits, you are looking for, my favorite cuisines, my favorite music, like to read, perfect first date, I like going out to, favorite physical activities, ideal relationships, past relationships
- 4) *Webdate*: humor, my favorite music, turn-ons, turn-offs, ideal place, fashion, cleanliness, parties, work habits, religious services, money, meeting someone.

Participants and recruitment

Participants were recruited through print and online advertisements in the Village Voice, the area's most prominent weekly newspaper, and on Craigslist.com, a popular classifieds portal (see Appendices 5 and 6). The advertisements called for participation in a study of "Self-Presentation in Online Dating Profiles," and promised complete confidentiality, as well as \$30 in compensation. Because deception is socially undesirable in our culture, the advertisements did not mention it.

Both printed and online advertisements directed potential participants to the study's public website (see Appendix 7), which contained a brief description of the study and laid out the conditions for participation: 1) that potential participants be active members for at least one month of one of the five selected online dating services, and 2) that they be at least 18 years old. Those who indicated that they met these criteria then proceeded to a sign up page, in which they specified the service to which they subscribed, their username and their contact information.

Four hundred and seventy-nine online daters signed up for participation through the study's website. At sign up, the following information was collected: name, email address, online service used, and username (see Appendix 7). Usernames served to locate online dating profiles and identify participants across the dimensions of gender, age and sexual orientation. Gender and age were selected so that they follow the national descriptions of the population of online daters (Fiore & Donath,

2004), although the gender distribution was held equal in order to allow for gender comparisons. This amounted to a small deviation from Fiore and Donath's (2004) finding that there are approximately 56% women online daters and 44% men online daters. Homosexual participants were excluded from the sample in order to eliminate the possible confounding effect of sexual orientation.

From the pool of 479 online daters, 251 were invited to participate in the study, and 84 were interviewed. Four participants were eliminated after being interviewed on account of being gay or bisexual. The final sample included 80 participants (40 men and 40 women). The demographics of the population and of the sample are presented in Table 1. Relative to Fiore and Donath's (2004) sample, young men and women (ages 21-30) were overrepresented in the present sample, whereas older men and women (ages 51-65) were underrepresented.

TABLE 1: Percentage of Men and Women by Age Group in the Population of Online Daters and the Sample of Online Daters

	Population		Sample	
	Females	Males	Females	Males
15-20	5.26	1.75	2.50	6.25
21-25	8.87	5.78	15.00	7.50
26-30	7.81	5.97	16.25	15.00
31-35	8.69	6.49	3.75	5.00
36-40	7.37	6.31	5.00	11.25
41-45	7.02	6.14	6.25	2.50
46-50	5.97	5.79	1.25	1.25

TABLE 1 (continued).

51-55	3.25	3.5	0.00	1.25
56-60	1.41	1.75	0.00	0.00
61-65	0.35	0.52	0.00	0.00
TOTAL	56.00	44.00	50.00	50.00

The sample included 45 (53.3%) Match.com and MSN Match.com users, 29 (34.5%) Yahoo Personals users, four (4.8%) Webdate users, and two (2.4%) American Singles users.

Procedure

The study was conducted over a period of six months, from December 2005 to May 2006. Participants were scheduled daily (weekdays and weekends) during the months of December, January and May, and on Fridays, Saturdays, Sundays and Mondays for the rest of the time. Interview time slots were open from either 10 am to 6 pm, or 12 pm to 8 pm. The scheduling of the study gave full-time workers an equal opportunity to participate in the study as part-time workers, students or the unemployed. Interview time slots lasted for 2 hours and were selected by the participants through a secure online appointment manager system (www.appointmentquest.com). The appointment management system sent participants automated appointment selection, confirmation and reminder emails (see Appendices 8, 9 and 10).

The study took place at the Psychology Department at New School University in Manhattan, New York City was chosen as the study's location because it provides access to online daters across a variety of socioeconomic and ethnic strata. However, it is conceivable that the metropolitan location of the study may have influenced the

amount of deception present in participants' profiles. Further research replicating the study in suburban or rural areas is invited.

Upon arriving at the study location, participants were informed of the study's actual intent of examining self-presentation and deception in online dating profiles. Each component of the study was described in detail. Participants were then informed of their right to skip any part of the study that may cause them discomfort, and were promised complete confidentiality. In order to increase participants' comfort with discussing deception, they were told that, according to recent research (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996), people lie on average once or twice every day and therefore deception is an important part of life and of self-presentation. This was meant to alleviate any guilt participants may have felt regarding their deceptive statements, and decrease the occurrence of socially desirable responses (i.e., participants refusing to admit to the experimenter that they have lied). Furthermore, participants were assured that the research team would not judge their answers, but only study them objectively. Two participants withdrew from the study upon learning that they were required to divulge private information, such as their weight and social security number.

The procedure involved four phases. In the first phase, participants were presented with a printed copy of their online dating profile and were asked to rate the accuracy of their responses to each of the profile categories. Accuracy was defined as "the extent to which the answer reflects the truth about you now," and was operationalized on a scale from 1 to 5, with 5 being most accurate, and 1 least accurate. Participants were instructed to use their own judgment in deciding what a 2, 3 or 4 on the accuracy scale mean. Next, participants were asked to circle all the inaccuracies in their profiles and make hand-written notes about what a more accurate answer might have been. This step established what undesirable truths participants

were trying to disguise. One obstacle encountered while collecting accuracy data was the presence of blank answers (e.g., “I’ll tell you later” or “No Answer”) for some of the common questions. This problem was circumvented by asking participants what they would have answered had the question been mandatory (i.e., “the profile doesn’t make it mandatory for you to specify your weight, but if it did, what would you say?”), and then having them rate the accuracy of that answer.

Next, participants were asked to rate the social acceptability of deception on all the profile categories, regardless of whether they had lied on them or not. More precisely, they rated how acceptable it is to lie on that specific category (i.e., generally speaking, is it acceptable to lie about height, or about weight?), using a scale from 1 to 5, with 1 being completely unacceptable and 5 completely acceptable.

Once they had completed scoring the social acceptability of deception on the profile categories, participants completed a questionnaire regarding their profile photographs (see Appendix 3). Participants indicated the age of each photograph, and then rated its accuracy (using the same 1-5 scale described above), and the degree of manipulation involved in creating the photo (1-extremely manipulated, 5-not at all manipulated). If any photo manipulation occurred, participants then elaborated on the nature of that manipulation: physical, digital and structural. A physical manipulation involved altering their appearance by wearing a wig, heavy make-up or colored contact lenses. Digital manipulation involved the alteration of the participants’ appearance with the use of computer tools, such as Photoshop. Structural manipulation refers to the alteration of the photograph as a whole, rather than of participants’ appearance, such as cropping the photograph or changing its brightness.

For the second phase of the study, participants completed an online version of five standard psychological questionnaires: Snyder’s Self-Monitoring Questionnaire (Snyder, 1974), the Marlow-Crowne Social Desirability Questionnaire (Crowne &

Marlowe, 1964), the Rosenberg Self-Esteem Scale (Rosenberg, 1989), the Satisfaction With Life Scale (Diener, Suh, & Oishi, 1997; Pavot & Diener, 1993), and the Modified Selves Questionnaire (Ellison, Donnellan, & Lucas, 2005; Higgins, 1987), as well as an online survey regarding their online dating history, practices, and success (see Appendix 12). The results from the social desirability, self-esteem, satisfaction with life and modified selves questionnaires will be discussed in a future paper.

The third phase of the study was an interview that addressed participants' views on socially acceptable deception in online dating profiles, their reasoning for providing misleading or inaccurate information in their profiles, their use of the technological set-up of the online dating service in devising self-presentation strategies, and their overall views on the advantages and disadvantages of online dating. The results from this interview are not discussed here.

The last phase of the study consisted of collecting objective data about the accuracy of participants' profile claims. Seven categories were assessed objectively.

- 1) *Age* was recorded from participants' driver's licenses. All participants were requested via email to bring a valid driver's license or another form of identification upon showing up for their appointment.
- 2) *Height* was measured by the interviewer in the lab using a standard measuring tape. All participants were required to remove their shoes in order to obtain accurate height measurements.
- 3) *Weight* was also measured in the lab using a standard scale. All participants were required to remove their shoes, as well as any heavy outerwear, in order to obtain accurate weight measurements.
- 4) *Eye color* was observed and recorded by the interviewer.
- 5) *Hair color* was also observed and recorded by the interviewer.

6) *Income* was gauged using the Internal Revenue Service's (IRS) form 4506-T (see Appendix 4). By filling out this form with their full names, addresses, social security numbers and signatures, participants authorized the IRS to release their tax return information for the previous fiscal year to a third party. Because of the sensitivity of the information involved, participants were assured that the form would be destroyed once faxed to the IRS and that their records would be kept under conditions of complete security and anonymity. Since not all returns were received at the time of preparing this manuscript, the income tax information is not included in this analysis.

7) *Photographs* of the participants were taken in the lab, using a digital camera. Three kinds of photographs were taken of each participant: a headshot, a full-body shot and a photograph that resembles as much as possible the profile's main photograph. These data will be used to assess the accuracy of profile photographs in the future and are not included in this analysis.

On average, the study lasted approximately an hour and 15 minutes:

- 1) Introductions, compensation and formalities – 10 minutes
- 2) Profile rating – 15 minutes
- 3) Online questionnaires – 20 minutes
- 4) Interview – 20-30 minutes
- 5) Objective measurements – 10 minutes

Upon completion of the study, participants were debriefed (see Appendix 2 for debriefing form).

RESULTS

Accuracy Rates

Self-Report Data

The profiles' common items were aggregated into five broader categories: *physical appearance* (including height, body type, hair and eyes), *social status* (including income, occupation and education), *relationship history* (including relationship status and have children), *habits and interests* (including smoking, drinking and interests) and *beliefs* (including politics and religion). Age and the "in my own words" section were left as stand-alone items as they don't logically fall under any of the above categories.

The self-reported accuracies for individual items and the categories under which they were aggregated are reported in Table 2. A profile's overall accuracy score was calculated for each participant by averaging the participant's accuracy scores across all the items included in his/her profile.

TABLE 2: Self-Report Accuracy Means and Standard Deviations for Men and Women (scale: 1=completely inaccurate; 5=completely accurate)

	Overall		Men		Women		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>p</i>
Physical Appearance	4.75	0.41	4.78	0.43	4.72	0.38	0.54
Height	4.66	0.66	4.59	0.79	4.73	0.50	0.34
Body Type	4.62	0.74	4.72	0.56	4.53	0.88	0.25
Hair	4.83	0.57	4.89	0.51	4.77	0.62	0.35
Eyes	4.91	0.33	4.97	0.16	4.85	0.42	0.10
Social Status	4.64	0.66	4.58	0.70	4.71	0.63	0.38
Income	4.51	1.21	4.42	1.31	4.61	1.10	0.56

TABLE 2 (continued).

Occupation	4.56	1.03	4.59	0.86	4.53	1.18	0.78
Education	4.77	0.76	4.64	0.99	4.90	0.38	0.13
Relationship History	4.94	0.33	4.90	0.45	4.98	0.16	0.30
Relationship Status	4.95	0.45	4.90	0.64	5.00	0.00	0.31
Have Children	4.92	0.50	4.90	0.64	4.95	0.32	0.65
Habits and Interests	4.59	0.59	4.60	0.60	4.58	0.58	0.85
Smoking	4.41	1.19	4.49	1.19	4.35	1.21	0.61
Drinking	4.62	0.77	4.67	0.62	4.58	0.90	0.60
Interests	4.75	0.55	4.69	0.67	4.82	0.39	0.33
Beliefs	4.79	0.54	4.88	0.45	4.70	0.60	0.15
Politics	4.73	0.75	4.84	0.51	4.62	0.89	0.22
Religion	4.81	0.68	4.88	0.54	4.74	0.79	0.38
Age	4.48	1.22	4.43	1.30	4.53	1.16	0.74
“In My Own Words”	4.74	0.59	4.83	0.38	4.70	0.52	0.21
Photographs	4.28	0.91	4.21	1.20	4.34	0.56	0.60
Overall Profile Score	4.65	0.25	4.65	0.28	4.65	0.24	0.99

Without exception, all accuracy scores fall above 4 on the 1-5 scale used (5 being most accurate). The mean accuracy score across all profile categories is 4.65, indicating a high degree of self-reported accuracy.

To examine whether accuracy scores vary across categories and between men and women, an 8 (category) by 2 (gender) mixed linear model was conducted, with category as a repeated measure and gender as a between subjects factor. The categories included were physical appearance, social status, relationship history, habits and interests, beliefs, age, “in my own words” and photographs. Self-reported

accuracy varied significantly across the different categories, $F(7, 336) = 6.30, p < 0.001$. Men and women’s accuracy scores did not differ from each other, $F(1, 48) = 0.16, p = 0.69$, nor did gender interact with the category factor, $F(7, 336) = 0.35, p = 0.93$, which suggests men and women did not report lying differently across categories.

Post-hoc pair-wise comparisons (Bonferroni-corrected to $p < 0.001$) on the category factor revealed that participants reported lying on relationship history significantly less than on social status, photographs, habits and interests, and the “in my own words” section. Participants also reported lying on their photographs significantly more than on beliefs, relationship history, physical appearance and the “in my own words” section. This pattern of results suggests that participants appear to lie the least about their relationship history and the most about their photographs.

Objective Data

Objective accuracy data were collected on five dimensions: height, weight, age, hair color, eye color and income. The present study examines only the continuous variables of height, weight and age. Table 3 reports men and women’s average height, weight and age, as reported in their profiles and as observed in the lab. Table 4 further reports the mean absolute difference between participants’ measured and observed height, weight and age (in inches, pounds and years respectively). The latter shows *by how much* participants lie, on average, about their height, weight and age.

TABLE 3: Means and Standard Deviations for Weight, Height and Age (Observed and Reported in Profile)

	Men		Women	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Height Reported (in)	70.87	2.92	64.56	2.79
Height Observed (in)	70.44	2.96	64.41	3.06

TABLE 3 (continued).

Weight Reported (lbs)	188.77	39.03	132.08	19.54
Weight Observed (lbs)	188.92	42.11	141.75	24.58
Age Reported (yrs)	30.92	8.23	29.76	7.41
Age Observed (yrs)	31.30	8.65	29.76	8.20

TABLE 4: Absolute Difference Between Observed and Reported Height, Weight and Age

	Overall		Men		Women	
	<i>M</i>	<i>SD.</i>	<i>M</i>	<i>SD.</i>	<i>M</i>	<i>SD.</i>
Height (in)	0.84	0.73	0.88	0.64	0.88	0.80
Weight (lbs)	9.04	7.53	8.56	7.37	9.50	7.74
Age (yrs)	0.53	1.61	0.65	1.69	0.42	1.55

On average, participants' height deviated from measurements by less than an inch ($M = 0.840$, $SD = 0.73$), their weight by about 9 pounds ($M = 9.04$ lbs, $SD = 7.53$), and their age was adjusted by half a year ($M = 0.53$, $SD = 1.61$). Note that when weight was measured, participants were asked to remove their coat and shoes. The remaining clothing may have added approximately 2 to 3 pounds to their weight. The above results are not adjusted for the weight of clothing.

To determine whether men and women's reported height differed from their observed height, a 2 (height type: reported height vs. observed height) by 2 (gender) mixed general linear model was conducted, with height type as a repeated measure and gender as a between-subjects factor. As expected, a main effect of gender was observed, $F(1, 77) = 90.46$, $p < 0.001$, which simply indicates that men's height is different from women's height. Participants' reported height was significantly higher than their measured height, $F(1, 77) = 6.87$, $p = 0.01$. Analysis at each level of gender

revealed that women's reported and observed heights did not differ, $t(39) = 0.84$, $p = 0.41$, but that men's reported height was significantly higher than their observed height, $t(37) = 3.02$, $p = 0.005$.

The same analysis was repeated for weight and age. For weight, a 2 (weight type: reported weight vs. observed weight) by 2 (gender) mixed linear model was conducted, with weight type as a repeated measure and gender as a between-subjects factor. Reported weight was significantly lower than observed weight, $F(1, 75) = 22.41$, $p < 0.001$. A main effect of gender was observed, $F(1, 75) = 51.302$, $p < 0.001$, indicating that, as expected, men's weight is greater than women's weight. Analysis at each level of gender revealed that women's reported weight was significantly lower than their observed weight, $t(38) = -5.97$, $p < 0.001$. However, men's reported and observed weights did not differ, $t(37) = -1.27$, $p = 0.21$, suggesting that while men do not lie about their weight, women significantly underreport theirs.

For age, a 2 (age type: reported age vs. observed age) by 2 (gender) mixed general linear model was conducted, with age type as a repeated measure and gender as a between-subjects factor. Reported age was significantly lower than observed age, $F(1, 73) = 4.75$, $p = 0.03$. Men and women's ages did not differ, $F(1, 73) = 0.56$, $p = 0.46$, nor did reported and observed age differ for men and women, $F(1, 73) = 0.45$, $p = 0.51$.

The percentage of participants whose observed and reported height, weight and age matched (i.e., no deviations) was also examined (see Table 5). For height, lab measurements that were within half an inch of the profile height were considered accurate, for two reasons: 1) to discount the effect of possible measurement errors; and 2) because none of the online dating profiles indicate whether numbers should be rounded up or not. Results show that, even though deviations from the truth are small (as seen earlier), only about half of the participants (53.16%) were completely

accurate about their height. For weight, lab measurements that were within 3 pounds of participants' reported weight were considered accurate. Only about a quarter (24.68%) of the participants were fully accurate about their weight. For age, only a perfect correspondence between participants' reported age and the age specified in their driver's licenses was considered accurate. Results show that most participants (81.33%) were accurate about their age. There were no gender differences on the percentage of participants who were fully accurate about their age ($p = 0.22$), height ($p = 0.33$) and weight ($p = 0.85$).

TABLE 5: Participants Completely Truthful About Height, Weight and Age (as percentage of total participants)

	Overall	Men	Women
Height	53.16%	47.37%	58.54%
Weight	24.68%	23.68%	25.64%
Age	81.33%	75.68%	86.84%

Participants' objectively measured deviations from the truth were also examined as a percentage of their actual weight, height and age. This may be particularly important when comparing men and women, as men's average weight and height tends to be higher than women's. This statistic was calculated by dividing the absolute difference between the reported and measured values by the measured value. Results are reported in Table 6.

TABLE 6: Men and Women’s Percent Deviations from the Truth for Height, Weight and Age

	Overall		Men		Women		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Height (%)	1.26	0.81	1.24	0.91	1.27	1.32	0.91
Weight (%)	5.51	4.24	4.69	3.85	6.30	4.49	0.09
Age (%)	1.47	0.00	1.83	4.42	1.11	3.58	0.44

Mean deviations from the truth viewed as percentages are low, which confirms participants’ high self-report accuracy scores. On average, participants deviated by about 1% of their actual height, by about 6% of their actual weight, and by about 1.5% of their actual age. Men deviated from the truth as much as women on the age ($p = 0.44$) and height ($p = 0.91$) dimensions. When analyzed as a percentage, women’s weight deviations were greater than men’s ($p = 0.09$).

Relationship Between Self-Report and Objective Data

One important objective was to determine how participants’ self-reported deceptions corresponded with their objectively assessed levels of deception. In order to gauge whether self-reported accuracy matched objectively identified accuracy, the self-reported and objective measures were correlated.

Reported weight accuracy was inversely correlated with the absolute difference between the weight indicated in the profile and the weight measured in the lab ($r = -0.657, p < 0.001$), suggesting that the more participants’ weight deviated from the truth, the lower they rated its accuracy. Similarly, reported body type accuracy was inversely correlated with the absolute difference between measured and reported weight ($r = -0.303, p = 0.008$). The more participants’ weight deviated from the truth, the lower they rated the accuracy of their body type statement. Age accuracy was also inversely related to the absolute difference between measured and reported

age ($r = -0.759, p < 0.001$). The more participants' age deviated from the truth, the less accurate they rated their profile age. Reported height accuracy is not significantly related to the absolute difference between observed and measured height ($r = -0.150, p = 0.188$). With the exception of height, participants' self-reported accuracy corresponded significantly with the objectively assessed data, suggesting that participants were generally honest in their assessments of their profile accuracy.

Social Acceptability Rates

Participants were asked to rate the social acceptability of lying on each of the profile categories. Again, rating was done on a scale from 1 to 5, with 1 being completely unacceptable to lie about the item at hand (i.e., age, height, income), and 5 completely acceptable to lie. The same category aggregations were used as when analyzing the self-report accuracy data. Results are shown in table 7.

TABLE 7: Social Acceptability Means and Standard Deviations for Men and Women (scale: 1=completely unacceptable, 5=completely acceptable)

	Overall		Men		Women		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Physical Appearance	2.29	1.03	2.15	1.10	2.42	0.95	0.26
Height	2.30	1.13	2.30	1.12	2.31	1.06	0.97
Body Type	2.17	1.11	2.13	1.32	2.21	0.87	0.76
Hair	2.45	1.42	2.23	1.46	2.68	1.36	0.16
Eyes	2.28	1.36	2.08	1.34	2.48	1.36	0.20
Social Status	2.19	1.06	2.41	1.18	1.97	0.88	0.07
Income	2.56	1.37	2.47	1.44	2.67	1.30	0.57
Occupation	2.08	1.28	2.42	1.44	1.75	1.00	0.03

TABLE 7 (continued).

Education	1.97	1.23	2.26	1.37	1.68	1.00	0.04
Relationship History	1.66	1.12	1.86	1.28	1.46	0.92	0.12
Relationship Status	1.76	1.30	2.03	1.50	1.49	1.02	0.07
Have Children	1.56	1.28	1.69	1.47	1.44	1.05	0.38
Habits and Interests	2.30	1.05	2.34	1.16	2.27	0.95	0.75
Smoking	2.04	1.19	2.20	1.32	1.86	1.02	0.21
Drinking	2.23	1.22	2.28	1.36	2.18	1.09	0.73
Interests	2.59	1.31	2.54	1.37	2.66	1.26	0.70
Beliefs	2.16	1.24	2.22	1.39	2.10	1.08	0.68
Politics	2.34	1.34	2.45	1.48	2.24	1.21	0.52
Religion	2.14	1.36	2.22	1.49	2.06	1.22	0.62
Age	2.03	1.25	2.15	1.42	1.91	1.06	0.43
“In My Own Words”	2.15	0.15	2.42	1.43	1.91	1.04	0.10
Photographs	1.98	1.31	1.89	1.34	2.08	1.29	0.61
Overall Profile Score	2.36	0.87	2.32	0.95	2.39	0.81	0.74

Overall social acceptability scores indicate a general disapproval of deception across categories, with all scores falling under the 2.6 mark. The mean of all social acceptability scores, across categories and participants, is 2.36. This suggests that, generally speaking, participants believe it is somewhat unacceptable to lie in online dating profiles.

To examine whether social acceptability scores vary across categories and between men and women, a 5 (category) by 2 (gender) mixed linear model was conducted, with category as a repeated measure and gender as a between subjects factor. The categories included were physical appearance, social status, relationship

history, habits and interests, and beliefs. Age, “in my own words” and photographs were left out because they have low sample sizes (65, 66 and 54 respectively), leading to substantial case-wise deletion of data.

Results show that social acceptability varied significantly across the different categories, $F(4, 304) = 8.04, p < 0.001$. Men and women’s social acceptability scores did not differ from each other, $F(1, 76) = 0.69, p = 0.41$, although gender did interact marginally with the category factor, $F(4, 304) = 2.23, p = 0.07$. Post-hoc pair-wise comparisons (Bonferroni-corrected at $p = 0.005$) on the category factor revealed that participants believe that lying on relationship history is less socially acceptable than lying on physical appearance, social status, photographs, habits and interests, and beliefs, suggesting that participants viewed it *least* socially acceptable to lie about relationship history. Analysis at each level of gender revealed that men consider it more acceptable than women to lie about occupation ($p < 0.03$) and education ($p < 0.04$). Marginal effects at the $p < 0.1$ level were found for social status (men find it more acceptable to lie about it) and the “in my own words section” (women find it more acceptable to lie about it).

Next, the relationship between social acceptability scores for height, weight and age, and the accuracy of the respective objective measurements was examined through a series of Pearson’s correlations. In other words, do participants have the same accuracy standards for themselves as for others (i.e., if I lied about my weight, is it acceptable for others to lie about it too)? Height social acceptability was strongly correlated with the absolute difference between measured and reported height ($r = 0.304, p = 0.008$). The more participants lied about their height, the more socially acceptable they thought it was to lie about it. Body type social acceptability was not correlated with the absolute difference between reported and measured weight ($r = 0.028, p = 0.814$). The social acceptability of lying about one’s body type remains the

same regardless of how much participants lied about their weight. Finally, age social acceptability is significantly related to the difference between reported and measured age ($r = 0.376, p = 0.003$). The more daters lied about their age, the more acceptable they thought it was.

Self-Monitoring Differences

The self-monitoring questionnaire was scored according to the guidelines outlined by Snyder (1974), with higher scores equaling higher self-monitoring. The reliability of the 25 item scale was acceptable (Cronbach's $\alpha = 0.69$). Participants with scores greater than 13 were identified as high self-monitors, whereas participants with scores less than 10 were identified as low self-monitors. The sample included 43 high self-monitors and 23 low self-monitors.

The relationship between self-monitoring and the accuracy and social acceptability data is reported below.

Self-Report Accuracy Data

Self-report accuracy scores for the common items and their aggregations for low and high self-monitors are reported in Table 8. Overall profile scores, calculated as the means of all profile items, are not different for high and low self-monitors.

TABLE 8: Self-Report Accuracy High vs. Low Self-Monitors (scale: 1=completely inaccurate, 5=completely accurate)

	High SM		Low SM		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Physical Appearance	4.78	0.35	4.67	0.53	0.34
Height	4.72	0.63	4.57	0.73	0.39
Body Type	4.56	0.83	4.68	0.65	0.51
Hair	4.88	0.50	4.68	0.78	0.22
Eyes	4.98	0.15	4.82	0.39	0.02

TABLE 8 (continued).

Social Status	4.74	0.54	4.51	0.81	0.18
Income	4.82	0.55	3.94	1.77	0.02
Occupation	4.63	0.95	4.71	0.78	0.70
Education	4.78	0.56	4.65	0.93	0.58
Relationship History	4.98	0.15	5.00	0.00	0.47
Relationship Status	5.00	0.00	5.00	0.00	n/a
Have Children	4.95	0.31	5.00	0.00	0.32
Habits and Interests	4.50	0.67	4.81	0.30	0.04
Smoking	4.24	1.32	4.91	0.29	0.02
Drinking	4.48	0.92	4.83	0.39	0.09
Interests	4.87	0.34	4.61	0.61	0.05
Beliefs	4.79	0.50	4.82	0.50	0.85
Politics	4.74	0.61	4.70	0.98	0.86
Religion	4.79	0.73	4.90	0.45	0.50
Age	4.26	1.48	4.59	1.01	0.35
“In My Own Words”	4.72	0.50	4.86	0.35	0.24
Photographs	4.31	0.86	4.23	1.06	0.80
Overall Profile Score	4.63	0.27	4.66	0.21	0.63

To examine whether accuracy varied between high and low self-monitors, an 8 (category) by 2 (self-monitoring type) mixed linear model was built, with category as a repeated measure and self-monitoring type (high or low) as a between-subjects factor. The categories included were physical appearance, social status, relationship history, habits and interests, beliefs, age, “in my own words” and photographs. High and low self-monitors did not differ overall on their accuracy scores, $F(1, 40) = 1.34$,

$p = 0.25$. Of the five profile categories, low self-monitors were significantly more accurate than high self-monitors only on the habits and interests category ($p = 0.04$).

For the individual profile items, high self-monitors were more accurate than low self-monitors about their income ($p = 0.02$) and interests ($p = 0.05$), whereas low self-monitors were more accurate than high self-monitors about their smoking ($p = 0.02$), eye color, ($p = 0.04$) and drinking ($p = 0.09$).

Objective Data

A 2 x 2 mixed linear model, with height type (reported in profile vs. observed) as a repeated measure and self-monitoring type (high vs. low) as a between-subjects factor was run. High and low self-monitors did not differ in height, $F(1, 63) = 0.13$, $p = 0.91$. There was no interaction between height type and self-monitoring level, $F(1, 63) = 0.38$, $p = 0.54$, suggesting that high and low self-monitors had equivalent discrepancies between their reported and measured heights.

The procedure outlined above was repeated for weight and age. Weight did not differ for high and low self-monitors, $F(1, 61) = 1.10$, $p = 0.30$. There was no interaction between weight type and self-monitoring, $F(1, 61) = 0.43$, $p = 0.52$, suggesting that high and low self-monitors had equivalent discrepancies between their reported and measured weight. Age did not differ for high and low self-monitors, $F(1, 61) = 0.12$, $p = 0.90$. There was no interaction between age type and self-monitoring, $F(1, 61) = 0.03$, $p = 0.88$, indicating that high and low self-monitors had equivalent discrepancies between their reported and measured age.

Social Acceptability

Self-report accuracy scores for the common items and their aggregations for low and high self-monitors are reported in Table 9. Overall social acceptability scores, calculated as the means of all profile items, reveal that both high and low self-monitors find it somewhat unacceptable to lie.

TABLE 9: Social Acceptability Scores for High vs. Low Self-Monitors (scale: 1=completely unacceptable; 5=completely acceptable)

	High SM		Low SM		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Physical Appearance	2.32	1.05	2.30	1.07	0.96
Height	2.21	1.21	2.43	1.03	0.45
Body Type	2.16	1.04	2.24	1.14	0.80
Hair	2.53	1.37	2.48	1.60	0.89
Eyes	2.37	1.41	2.18	1.30	0.59
Social Status	2.28	1.16	2.11	0.96	0.54
Income	2.65	1.44	2.71	1.36	0.90
Occupation	2.10	1.32	2.10	1.25	1.00
Education	2.12	1.33	1.62	1.07	0.14
Relationship History	1.80	1.24	1.32	0.98	0.12
Relationship Status	1.88	1.38	1.36	1.05	0.13
Have Children	1.72	1.44	1.27	0.94	0.19
Habits and Interests	2.26	0.99	2.19	1.11	0.80
Smoking	2.90	1.09	1.95	1.17	0.87
Drinking	2.19	1.12	2.05	1.24	0.67
Interests	2.73	1.32	2.30	1.30	0.48
Beliefs	2.22	1.27	1.81	1.04	0.18
Politics	2.45	1.43	1.95	1.08	0.18
Religion	2.15	1.39	1.90	1.20	0.23
Age	2.00	1.18	1.86	1.28	0.68
Photographs	1.89	1.07	1.59	1.23	0.40
Overall Profile Score	2.40	0.80	2.12	0.84	0.21

To determine whether social acceptability scores varied between high and low self-monitors, an 8 (category) by 2 (self-monitoring type) mixed linear model was built, with category as the repeated measure and self-monitoring type (high or low) as the between-subjects factor. The categories included were physical appearance, social status, relationship history, habits and interests, beliefs, age, “in my own words” and photographs. The variation in social acceptability scores across self-monitoring type approached significance, $F(1, 28) = 1.88, p = 0.10$, indicating that high self-monitors found deception to be moderately more socially acceptable than low self-monitors. High and low self-monitors did not rank the categories differently, $F(1, 28) = 0.27, p = 0.61$.

Relationship Goals

Relationship goals were assessed through one survey question. Participants were asked to identify their main relationship goal from among the following: 1) to make new friends and/or meet some interesting people; 2) to date a number and/or variety of interesting people; 3) to meet one special person with whom to establish a committed relationship; and 4) to find a life or marriage partner.

Twenty-one participants (26.58%) identified making new friends and/or meeting some interesting people as their primary goal as online daters; 17 participants (21.52%) sought to date a number and/or variety of interesting people; 16 participants (20.25%) wished to meet one special person with whom to establish a committed relationship; and 25 participants (31.65%) had as an ultimate goal finding a possible life or marriage partner.

An 8 (category) x 4 (relationship goals) general linear model, with category as a repeated measure and relationship goals as a between-subjects factor, revealed that relationship goals did not influence how accurate participants reported being in their profile, $F(3, 45) = 0.28, p = 0.84$.

To determine whether reported and measured height varied according to relationship goals, a 2 (height type) by 4 (relationship goals) mixed linear model was conducted, with height type as a repeated measure and relationship goals as a between-subjects factor. Relationship goals interacted marginally with height type, $F(3, 74) = 2.61, p = 0.06$. Paired sample t-tests comparing actual and reported weight for each relationship goal condition (Bonferroni corrected to $p < 0.0125$) revealed that those seeking to date a number/variety of people reported being significantly taller than they really were. Participants with any other relationship goals did not significantly lie about their height.

The procedure outlined above was repeated for weight. A 2 (weight type) x 4 (relationship goals) mixed linear model was built, with weight type (reported in profile or measured) as a repeated measure and relationship goals as a between-subjects factor. A marginally significant interaction effect was observed, $F(3, 72) = 2.33, p = 0.08$. Paired-samples t-tests (Bonferroni corrected to $p < 0.0125$) revealed that only those simply wishing to meet interesting others did not lie significantly about their weight; participants with any other goal reported being significantly thinner than they actually were.

The procedure was repeated again for age, but it didn't reveal any differences between reported and observed age depending on relationship goals, $F(3, 72) = 1.29, p = 0.28$.

An 8 (category) x 4 (relationship goals) general linear model, with category as a repeated measure and relationship goals as a between-subjects factor, revealed that relationship goals did not influence social acceptability ratings for the various profile categories, $F(3, 30) = 2.03, p = 0.13$.

Warranting

Warranting was examined through a series of survey questions (see Appendix 12). Participants indicated how many people from their social circle were aware of their online dating profiles. Next, they rated their willingness to discuss their online dating presence and experiences with others, and they specified how anonymous they felt when using online dating services. The presence or absence of photographs was also considered a warranting outlet.

Number of people aware of profile

On average, participants reported that about 7 people were aware of their profile ($M = 7.05$, $SD = 7.85$). The number of people aware of participants' profiles is not correlated with any of the accuracy scores except for the accuracy of photographs ($r = -0.413$, $p = 0.002$), indicating that the more people were aware of one's profile, the more accurate the profile's photographs were. Similarly, the amount by which participants lied about their height, weight and age is not correlated with the number of people aware of participants' profiles.

Feelings of anonymity

On a scale from 1 to 5, where 1 is not at all anonymous and 5 is completely anonymous, participants' average scores were 2.55 ($M = 2.55$, $SD = 1.33$). More than half of the participants gave themselves either a 1 or a 2 on the anonymity scale, indicating low levels of perceived anonymity. Results show that perceived anonymity is not correlated with the accuracy of any of the profile categories, nor with the amount by which participants lied about their weight, height and age.

Photographs

To determine whether the accuracy scores of participants who posted photographs were different from the accuracy scores of those who did not post photographs, a 7 (category) by 2 (photograph or no photograph) mixed linear model

was conducted, with category as a repeated measure and presence of photographs as a between-subjects factor. The categories included were age accuracy, “in my own words” accuracy, physical appearance accuracy, social status accuracy, relationship history accuracy, habits and interests accuracy and beliefs accuracy. The accuracy scores of participants who posted a photograph were higher than the accuracy scores of those who did not, $F(1, 66) = 3.88, p = 0.05$. Simple analyses reveal that participants who posted photographs were significantly more accurate about their relationship history than those who did not, $p = 0.004$. Further tests at the individual item level show that participants with photographs were more accurate about having children, $p = 0.002$, and about their relationship status, $p = 0.09$.

DISCUSSION

This study had two main objectives. First, it proposed to examine, from a theoretical standpoint, the occurrence of deception in online dating profiles by considering a variety of mediating factors (warranting, relational goals, gender, self-monitoring). Second, it introduced a novel methodological approach to assessing deception in online dating profiles by complementing self-report data with objectively measured data. This method improved the assessment of deception by allowing a comparison between what people presented in their online profiles and what they actually looked like, which avoids some issues stemming from socially desirable responding (i.e., participants unwilling to admit having lied in order to make a good impression upon the experimenter). Implicit in both these goals was the desire to objectively assess, for the very first time, the amount of deception that takes place in the novel arena of online dating.

Theoretical Considerations

Various theoretical perspectives point to divergent answers to the question of how much deception occurs in online dating. Because computer-mediated communication enables selective self-presentation (Walther, 1996), which is essential during the initiation stage of romantic relationships (Berger, 1987, Ekman, 1985), deception might be expected to be common in online dating profiles. Nonetheless, online daters may experience a need for authenticity (Ellison et al., 2006), or of putting forth their true selves in the hopes of finding unconditional love and acceptance (Reis & Shaver, 1988). Initial results show that the tension between impression management and authenticity appears to be resolved in favor of the latter. Participants reported a high degree of accuracy across all profile categories. On a scale from 1 to 5, where 5 is completely accurate and 1 is completely inaccurate, their average score was well above 4.5. Also noteworthy is that none of the individual

categories were scored below 4, and that the variance in accuracy scores across profile categories was small. The latter suggests that the sample didn't include either extremely accurate or extremely inaccurate participants, but rather a homogenous group of *fairly* accurate participants.

Objectively measured data confirm that participants' deviations from the truth were indeed minimal (less than an inch for height, approximately seven pounds for weight, and about half a year for age), but that they occurred quite frequently. Only a quarter of participants were *fully* accurate about their weight, half about their height, and about three quarters about their age. Online daters' lies tend to be small (e.g., deviations amounted to less than 6% of participants' real height, weight and age), but they are common. This suggests that, although online daters tend to present themselves relatively truthfully, they nevertheless do take advantage of the self-presentational opportunities afforded by computer-mediated communication. On closer inspection, the tension between impression management and authenticity is resolved by engaging in a little bit of both.

As the number of online daters increases exponentially (Greenspan, 2003), both competition and potential partners abound. On the one hand, users may want to make themselves appear more appealing than the competition—a well-known technique for attracting partners (Buss, 1988). On the other hand, they may feel that, through the sheer power of numbers, they are bound to meet someone who will love them for who they truly are. Participants resolved this tension by slightly enhancing their attributes, but still staying close to the facts. The observation that the deceptions were small but frequent may also be explained by the different tensions involved in using CMC for self-presentation. CMC is editable, asynchronous, and “leakage-free” (Walther, 1996), properties which make deception a viable option even for those who cannot tell a lie with a straight face. However, CMC is recordable, which deters users

from lying because their lies can be captured for posterity (Hancock, Thom-Santelli, & Ritchie, 2004). Also, online dating usually leads to face-to-face interaction, in which outright deception can easily be detected.

Participants solved these tensions by lying *subtly*. Such deception might put them at an advantage in the competitive online dating arena, while slipping undetected in face-to-face interaction, or being easily excused by the ambiguity of the online dating profile. For instance, none of the services sampled indicate whether users should round up their height, which may explain why participants deviated from their true height by about half an inch. Similarly, many of the multiple choice questions included in the profile offer flattering yet unrealistic options (for instance, the body type question includes “big and beautiful,” “voluptuous,” “curvy,” but not “overweight”).

What kinds of aspects of their self-presentation did participants lie the most and least about? Participants reported being most accurate about their relationship history, a category which assesses their relationship status (single, divorced, separated, etc.) and whether or not they have children. In developing relationships, this is key information that can be easily verified when meeting in person, which explains its high accuracy score. Participants reported being least accurate about their photographs, a profile category that allows for considerable editability (Walther, 1996). Photographs can be easily enhanced through framing, posing, lighting, make-up, or through design software (e.g., PhotoShop).

These findings are of particular relevance to Walther’s Hyperpersonal model. The model posits that CMC may create an intensification loop, which causes impression formation and relational communication to go beyond the levels typically achieved in parallel face-to-face interactions (Walther & Parks, 2002). One of the key

aspects of the model is selective self-presentation, an affordance of the channel that allows users to present themselves in idealized ways.

The Hyperpersonal model posits that there exists a dynamic relationship between senders and channel, in which senders' motivations influence how the channel is used, while the channel itself, through its affordances, may enhance users' motivations. According to this sociotechnical perspective, users may engage in selective self-presentation because they have some desire to do so. However, this desire might be augmented by the fact that they are actually *able* to engage in selective self-presentation (2002).

The data from the present study generally supports the sociotechnical approach taken by the Hyperpersonal model. On the sender side, participants are motivated to pursue relationships, which can be accomplished by presenting oneself as desirable as possible, by staying true to oneself, or a combination thereof. On the channel side, deceptive self-presentation is facilitated by editability, reallocation of cognitive resources, and lack of nonverbal cues. As noted earlier, even the setup of the profile may encourage deception. Results show that participants didn't engage in deception simply because they *could*, which rejects the technologically deterministic perspective that was pervasive during the initial years of CMC research. Nor were participants completely oblivious to the unique affordances of online dating profiles. Rather, they *strategically* chose how to make best use of the tools at their disposal in order to achieve relational goals. By lying a little about a lot of things, they appear to reconcile both the tensions presented by online communication (e.g., editability vs. recordability), and those presented by initiating romantic relationships (e.g., impression management vs. authenticity).

The above observation might also explain *how* users take advantage of channel properties to selectively self-present. According to Walther (2005), this aspect of the

Hyperpersonal model has received little academic attention and is still in need of clarification. Results of the current study suggest that online daters optimize self-presentation in such a way that receivers' idealized perceptions of senders are not shattered upon meeting face-to-face. Self-presentation is still enhanced, but not outrageously so. For instance, senders lie the most about their photographs (although, in absolute terms, photographs are still reported as being fairly accurate) in an effort to optimize their self-presentation. Research has shown (see Walther & Parks, 2002) that the presence of photographs significantly dampens hyperpersonal impression formation, because it leaves little to the imagination. Online daters' photographs, however, appear to be carefully chosen and manipulated so that they don't completely ruin receivers' idealized impressions.

The motivation to engage in online dating, operationalized as relationship goals, was expected to alter participants' pattern of deception. More specifically, daters looking for committed relationships were expected to be more accurate than daters looking for casual relationships. Contrary to expectations, daters' relationship goals were unrelated to their self-reported profile accuracy. Similarly, relationship goals did not interact with the social acceptability scores of any of the profile categories, suggesting that participants found it unacceptable to lie regardless of the kind of relationships they sought to establish through online dating.

The lack of impact of relationship goals may reflect the importance of anticipated face-to-face interaction. By its very nature, online dating involves the anticipation of meeting someone in person, and this anticipation may have overpowered any impact that relational goals may have had on self-reported measures of deception. This idea will be discussed in more detail shortly. Alternatively, the single item assessing relationship goals may not have been sufficiently reliable or sensitive to detect an association between relationship goals and deception. Additional

research is necessary to assess this relationship with more precise and reliable measures of relational goals. As well, future research should include a measure of anticipated future interaction to confirm the assumption that all online daters anticipate meeting a date in person.

A number of effects of relationship goals, however, were observed in the objective measures. First, all participants were heavier than they claimed to be in their profiles except for those with the goal of meeting a variety of interesting people. Participants looking to date—either seriously or casually—significantly underreported their weight. According to the Expectation-Discordance Model of relationship deception (Druen et al., 1998), lying occurs when it is difficult to meet the expectations of the other party through honest communication. Daters may have unanimously lied about their weight because being thin is a beauty norm in our culture and they wanted to enhance their physical appearance. Again, this underscores the strategic aspect of daters' self-presentation.

In addition to relationship goals, technology itself may guide daters' deception patterns. Warranting (Walther & Parks, 2002), or the process of creating a connection between the disembodied online self and the physical self, was hypothesized to decrease deception. As strategic self-presenters, online daters would avoid lying about things that can be easily verified. This hypothesis was supported. For example, results show that participants who posted photographs were significantly more accurate about their relationship history, children and relationship status than those who did not post a photograph. The number of people from participants' social circle who were aware of their online dating profile (and could therefore find it and examine it) was also hypothesized to act as a warranting outlet, because participants wouldn't want to be caught lying by those who know them well. Results show that the more friends and family were aware of one's profile, the more accurate the profile's photographs were.

Lastly, participants' perceived anonymity was assumed to serve as a warranting outlet. The more anonymous participants felt, the more deception was expected. Results show that perceived anonymity did not mediate the amount of deception present in their profiles. On closer inspection of the anonymity data, the majority of participants reported not feeling anonymous at all in their profiles. The lack of variance in the anonymity variable may have hidden any relationship between anonymity and accuracy.

The above findings emphasize, again, that online daters did not lie randomly, but rather strategically. In a sociotechnical manner, they took into consideration the interaction between technological affordances and social affordances. When they lied about their relationship status, they tended not to post photographs so they wouldn't be recognized by their significant others or members of their social circle. Similarly, they chose not to lie very much because they didn't feel anonymous. An awareness of technological affordances may have guided participants' strategic deceptions.

Participants may have received further guidance on how to lie strategically from directly witnessing the impact of their deception in face-to-face interaction. Walther and Parks (2002) point out that CMC theories, such as the Hyperpersonal model, do not explain satisfactorily what happens in mixed mode relationships, in which people meet online and then migrate offline. For instance, the Hyperpersonal model suggests that relational development may be stunted if not obliterated when users leave the space that allowed for carefully controlled interaction and idealized impression formation. When meeting face-to-face, senders may no longer be able to maintain their idealized personae, and receivers may be disappointed when confronted with this harsh reality. In other words, the Hyperpersonal model suggests that leaving virtuality is a one-way street that inevitably leads to the deflation of the impressions formed online.

Online dating supports a peculiar kind of mixed mode relationships, in which users selectively self-present online, engage in face-to-face interactions, and then return online. CMC's property of editability is important, as users are able to adjust their self-presentation after having met people face-to-face, received feedback, and *learned* (Gibbs, Ellison, & Heino, 2006) from their mistakes. As senders become increasingly aware of how they are perceived, they are even more strategic in their online self-presentation. Interacting with receivers face-to-face may be a system of checks and balances, from which senders learn how to maximize their self-presentation while pursuing their relationship goals.

The fact that online daters are aware of, and learn from their surroundings may be illustrated by the strong correlations between the extent to which they lied and their beliefs about the social acceptability of deception. The more socially acceptable participants thought it was to lie about height and age, the more they themselves lied about their height and age. Similarly, the relatively low social acceptability scores of all categories are congruent with their high accuracy scores. If it is unacceptable to lie about a specific category, participants will lie less about it. For example, participants found it least acceptable to lie about relationship history (relationship status and having children), and they indeed lied least about it. Learning from face-to-face feedback may have shaped participants' beliefs about the social acceptability of deception, which, in turn, guided their own profile accuracy.

Theoretically, hyperpersonal effects may be mediated by learning from frequent online-offline migration, such that selective self-presentation is even more strategic and leaving virtuality has less dire consequences. Further research should explore the ways in which the process of constantly leaving and returning to virtuality may affect the intensification loop proposed by the Hyperpersonal model.

Gender and Deception in Online Dating

Gender was examined as one of the important mediating factors in online dating deception. Since online daters are strategic in their deceptions, it was hypothesized that they would enhance those attributes that opposite sex partners value. As suggested by research in the sociobiology tradition (Ahuvia & Adelman, 1992; Hirschman, 1987; Hitsch, Hortacsu, & Ariely, 2004; Jagger, 2001; Lynn & Bolig, 1985; Woll & Cozby, 1987), men were expected to lie more than women about social status indicators (income, education, occupation), whereas women were expected to lie more than men about their youthfulness (age).

Surprisingly, the results did not reveal any gender differences in reported accuracy across the profile categories. Coupled with the fact that both genders reported high accuracy across all profile photographs, this could reflect a general intolerance of deception when meeting face-to-face.

Although men and women did not report differences in their accuracy, the social acceptability data revealed that men considered it more acceptable than women to lie about occupation, education and social status. Thus, even though men and women reported being equally accurate, women had less tolerance for deception on social status indicators. This observation provides some support for the postulates of evolutionary psychology and the assumption that women tend to value men with access to resources.

No gender differences were observed for age. Both men and women portrayed themselves as slightly younger than they actually were. This pattern of deception might reflect a cultural shift towards youthfulness for both genders. Conversely, it can merely reflect the technological constraints of the online dating websites. As previously discussed, the websites' search engines allow for search only within predetermined age categories. Participants might portray themselves as younger in an

effort not to be filtered out from other daters' searches. This strategy might be particularly beneficial for men who, if included in younger categories, will have access to younger women.

The literature on the importance of physical attractiveness in initiating romantic relationships points to two different directions. Theories of evolutionary psychology suggest that physical attractiveness is more sought-after by men because it indicates that potential partners are fertile (Hirschman, 1987; Jagger, 2001; Lance, 1998; Lynn & Bolig, 1985; Woll & Cozby, 1987), although in general both men and women are thought to desire physically attractive partners (Waister, Aronson, Abrahams, & Rottman, 1966). In the present study, self-report data revealed no difference in men and women's accuracy about their physical attractiveness. However, objectively measured data revealed some significant differences. First, women's profile weight was significantly lower than their actual weight, whereas men's profile and actual weight did not differ. Second, men's profile height was significantly lower than their actual height, whereas women's profile and actual height did not differ. In other words, women underreported their weight, while men overreported their height. Assuming that being thin is indicative of female attractiveness and being tall is indicative of male attractiveness, then both genders deceptively enhanced their levels of gender-specific attractiveness.

The importance of physical attractiveness for both genders is underscored by the fact that, for both men and women, the accuracy of the overall profile could be predicted by the accuracy of the physical appearance questions. That is, if participants did not lie about their physical appearance, then they did not lie about other aspects of their online profile either. If they did lie about their physical appearance, then they tended to lie about other things as well. More attractive people may feel confident that they will be successful regardless of their shortcomings. Conversely, less attractive

people may need to compensate for their lack of physical attractiveness by embellishing other parts of their profiles as well. Considered together, these findings suggest that physical attractiveness is paramount in the online dating arena.

The relatively few gender differences found in online daters' lying patterns do not undermine previous observations that daters are strategic in their self-presentation. Rather, they may illustrate the constraints of building trust online. From repeated online-offline migration, strategic daters may have simply realized that trust can be easily shattered if deception is detected in initial face-to-face encounters, particularly if such deception affects issues of importance to the opposite-sex partner. Not wanting to break that trust, all daters may have kept their tendency to lie in check. Further research is invited to illuminate online daters' thought processes when deciding to engage in various types of deception.

Self-Monitoring and Online Dating Deception

The last potential mediating factor of deception analyzed in this study was self-monitoring (Snyder, 1987). Because of the malleability and versatility of their self-presentation, high self-monitors were expected to find deception more acceptable than low self-monitors. The results did not provide support for this hypothesis. Social acceptability scores were not different for high and low self-monitors.

Similarly, high self-monitors were expected to engage in more deception than low self-monitors across the profile, and particularly on the physical attractiveness and social status categories. Results show that, averaging across the profile, high self-monitors did not report lying more than low self-monitors, nor did they enhance their physical attractiveness and social status. However, high self-monitors reported lying more than low self-monitors about their habits and interests. According to Snyder (1987), activities are central to high self-monitors, and they specifically choose friends and lovers who can partake in the same activities. The unexpected finding that

high self-monitors are very deceptive about their habits and interests runs contrary to Snyder's assertions, although the relatively small sample size for low self-monitors (43 high self-monitors and 23 low-self-monitors) suggests that caution must be used in interpreting these results. Additional research, with more low self-monitors, is required to address the relationship between self-monitoring and deception in online contexts.

Methodological Considerations

In addition to the above theoretical observations, the present study added a methodological contribution to existing research on deception in online dating profiles by collecting self-report data in conjunction with objectively measured data. Results show that, with the exception of height, participants' self-reported accuracy was significantly correlated with the objectively assessed data. In other words, participants were honest in their assessment of their profile accuracy, and the self-report data they provided is reliable.

Prior research on deception in online dating profiles has pointed out that misrepresentation can occur unintentionally, due to the limits of participants' self-knowledge (Ellison, Heino, & Gibbs, 2006; Gibbs, Ellison, & Heino, 2006). This "self-deception" (Baumeister & Cairns, 1992) is different from lying in that deceivers sincerely believe that what they are presenting is accurate, even though it may not be so to impartial observers. This stems from people's strong preference for having a favorable image of themselves (Baumeister, 1982).

Participants in this study did not engage in self-deception, except possibly for height. As mentioned earlier, self-report data closely matched objectively measured data, as indicated by the significant correlations between the two. For instance, the more years participants subtracted from their real age, the lower their rated the accuracy of their profile age. Further research is invited to objectively verify less

quantifiable aspects of participants' profiles, such as their interests or activities. Data from this study suggest that, when participants lied in their profiles, they did so knowingly. Consistent with the idea of strategic self-presentation, participants' deceptive statements were planned and intentional.

Even though participants' self-report data was shown to be highly correlated with the objectively measured data, the latter provided a richer and more nuanced understanding of online daters' lying patterns. For instance, self-report accuracy data did not show any gender differences in physical appearance accuracy. However, objectively measured data revealed that men lied about their height whereas women lied about their weight. Similarly, self-report data did not indicate any difference in accuracy as a function of relationship goals. Nonetheless, objectively measured data showed that everybody claims to be thinner than they really are, *except* for those who are not interested in dating per se. The methodological approach taken in this study has clear advantages and is recommended in future analyses of deception.

Although the present study provides important theoretical and methodological advances, it also involves several limitations. Perhaps the most important limitation was the nature of the sample. Participants were recruited by offering a small amount of cash for an hour of their time. It is unlikely that wealthier participants were proportionally represented in the sample. Also, the present sample was substantially younger than the most recent assessment of the population of online daters (Fiore & Donath, 2004). Note, however, that given that this last assessment is now three years old, it is possible that the demographics of the population may have changed. A more recent appraisal of the population of online daters would be necessary to assess the generalizability of the present study. Other limitations include inconclusive analyses of relational goals and self-monitoring as mediating factors of deception in online

dating profiles. Research employing more precise measurement, statistical techniques and sampling is required to explore the full impact of these variables.

Despite these limitations, the current study offers some important insights regarding the occurrence of deception in the novel arena of online dating. For instance, deception does not appear to be as pervasive as held by popular opinion, and physical attractiveness is deemed essential by both male and female daters. More importantly, however, this study highlights the strategic aspects of online communication. Users are offered a range of tools for reaching their self-presentation goals, such as editability, rehearsibility and asynchronicity, and they use them purposefully and with care. As a result, online daters are in the fortunate position of being as tactical as they need to be when engaging in one of the most important pursuits of their lives—finding love.

APPENDIX 1: INFORMED CONSENT FORM

Self-presentation in Online Dating Profiles

Consent Form

You are invited to participate in a research study of self-presentation and deception in online dating profiles. You were selected as a possible participant because you are an active user of Yahoo Personals, Match.com, American Singles, MSN Match.com or Webdate. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Background Information: The purpose of this study is to understand how online daters present themselves in their profiles. Some of the things we are interested in are deception in profiles, motivations for deception, satisfaction with the self-presentation options offered by the online dating website you use, and perceptions of the acceptability of different self-presentational strategies in the online dating environment.

Procedures: If you agree to be in this study, we will ask you to do the following:

- 1) fill out several questionnaires
- 2) take some physical measurements, such as height and weight, and have your photograph taken
- 3) grant us permission to use your main profile picture, as well as the picture we take of you in the lab. The two pictures will be compared by independent judges. Your pictures will be kept solely for research purposes and will never be published or exhibited. Furthermore, they will be identified only by code number and not by name.
- 4) provide access to your driver's license (or other form of identification) and complete a request to have a copy of your last year's income tax return be sent to the

experimenters. The return will be destroyed after we record your income, marital status and date of birth.

5) go over your online dating profile with the experimenter

Your time commitment will be about one hour and will not exceed two hours. No further time commitment will be required of you.

Risks and Benefits of Being in the Study:

We do not anticipate any risks for you participating in this study, other than those encountered in day-to-day life. However, you may feel uncomfortable discussing deception or identifying it in your online dating profiles. If such feelings of discomfort occur, please be aware that, according to existing research, deception is a common part of everyday life and that most people lie on a daily basis. The research team in no way judges deception in online dating profiles; as a matter of fact, we view lies as an important part of self-presentation.

Indirect benefits to participation are a contribution to existing knowledge of how online daters present themselves in their profiles, as well we to the types of deception they engage in. Furthermore, based on our findings on self-presentation and deception, we will be able to make design recommendations on how to improve online dating websites. This could benefit not only yourself, but other users of online dating services.

Compensation:

You will receive \$30 cash as compensation for your participation in the study.

Voluntary Nature of Participation: Your decision whether or not to participate will not affect your current or future relations with Cornell University or the online dating service you use. You are free to skip any survey or interview questions you don't feel comfortable answering. If you decide to participate, you are free to withdraw from the study at any time without any repercussions on your relationship with either Cornell

University, Michigan State University or the online dating service you use. You will receive your compensation regardless of whether or not you complete the requirements for the study.

Confidentiality: The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records (including your photograph, personal information, and audiotaped recordings of your interview) will be kept secure in a locked file; only the researchers will have access to the records. The information you provide us with will be used for educational purposes only (publications in academic journals and conference presentations). Your records will not be destroyed at any time.

Please be advised that you have been contacted via email to arrange for your participation in this study. Although we kept our correspondence with you entirely confidential, Internet transmission of information is generally not completely private nor secure. It is thus possible, albeit unlikely, that our correspondence might be viewed by a third party.

Contacts and Questions: The researcher(s) conducting this study are Dr. Jeff Hancock, Dr. Nicole Ellison and Catalina Toma. Please ask any questions you have now. If you have questions later, you may contact Dr. Hancock at

Dr. Jeff Hancock

320 Kennedy Hall

Ithaca, NY 14850

Ph: (607) 255-4255

Email: jth34@cornell.edu

If you have any questions or concerns regarding your rights as a subject in this study, you may contact the University Committee on Human Subjects (UCHS) at 607-255-

5138, or access their website at

<http://www.osp.cornell.edu/Compliance/UCHS/homepageUCHS.htm>.

You will be given a copy of this form to keep for your records.

Statement of Consent: I have read the above information, and have received answers to any questions I asked. I consent to participate in the study.

Signature _____ Date

I agree to be audiotaped during the interview portion of this study and to have my picture taken.

Signature _____ Date

I grant the experimenters permission to use my pictures for research purposes.

Signature _____ Date

This consent form will be kept by the researcher for at least three years beyond the end of the study and was approved by the UCHS on November 28, 2005.

APPENDIX 2: DEBRIEFING FORM

Debriefing Form for

Self-Presentation in Online Dating Profiles

Today you participated in a study of self-presentation in online dating profiles. You were asked to fill out several personality assessment questionnaires, to have your height and weight measured, your photograph taken, and your income and date of birth recorded. You also filled out a survey and were interviewed about your online dating practices.

The purpose of today's study was to assess how self-presentation and deception occur in online dating profiles. By using both objective measures (your age, height, weight, eye color) and self-reports (the information you gave us during the interview), we will gauge the amount and type of deception present in online dating profiles. We predict that, contrary to popular belief, deception in online dating profiles does not exceed, in terms of quantity, deception in everyday life, but that it is different, in terms of quality, from face-to-face deception.

We will also explore self-presentation strategies, motivation for deception, as well as the social acceptability of deception in online dating profiles (e.g. what is an acceptable lie, and what isn't). Furthermore, we are interested in gender differences in deception quality and quantity (i.e. do women lie about different things than men?), as well as in personality differences (i.e. are the lying patterns of low and high self-monitors similar?).

Lastly, we wish to explore the role of technology (i.e. website design) in constraining users' self-presentation, and make design recommendations in order to augment users' satisfaction with online dating portals. In other words, does the online

dating portal you use allow you to express yourself in the best possible way? Is there any way it can be improved?

If you have any questions about this study, please contact Prof. Jeffrey Hancock at jth34@cornell.edu or Catalina Toma at clt32@cornell.edu.

Thank you for your participation.

APPENDIX 3: INFORMATION ABOUT PROFILE PICTURES

Participant Number: _____

Picture #1

Accuracy (circle one): 1 2 3 4 5 (1-not at all accurate, 5-completely accurate)

Age of picture: _____months

How manipulated is the picture (circle one): 1 2 3 4 5 (1-not at all manipulated, 5-extremely manipulated)

Manipulation type: physical (e.g. wig) _____

digital _____

modeling/lighting _____

Picture #2

Accuracy (circle one): 1 2 3 4 5 (1-not at all accurate, 5-completely accurate)

Age of picture: _____months

How manipulated is the picture (circle one): 1 2 3 4 5 (1-not at all manipulated, 5-extremely manipulated)

Manipulation type: physical (e.g. wig) _____

digital _____

modeling/lighting _____

Picture #3

Accuracy (circle one): 1 2 3 4 5 (1-not at all accurate, 5-completely accurate)

Age of picture: _____months

How manipulated is the picture (circle one): 1 2 3 4 5 (1-not at all manipulated, 5-extremely manipulated)

Manipulation type: physical (e.g. wig) _____

digital _____

modeling/lighting _____

APPENDIX 4: TAX INFORMATION

Form 4506-T (Rev. November 2005) Department of the Treasury Internal Revenue Service	<h3 style="margin: 0;">Request for Transcript of Tax Return</h3> <p style="margin: 0;">▶ Do not sign this form unless all applicable lines have been completed. Read the instructions on page 2.</p> <p style="margin: 0;">▶ Request may be rejected if the form is incomplete, illegible, or any required line was blank at the time of signature.</p>	OMB No. 1545-1872
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Tip: Use Form 4506-T to order a transcript or other return information free of charge. See the product list below. You can also call 1-800-829-1040 to order a transcript. If you need a copy of your return, use Form 4506, Request for Copy of Tax Return. There is a fee to get a copy of your return.

1a Name shown on tax return. If a joint return, enter the name shown first.	1b First social security number on tax return or employer identification number (see instructions)
2a If a joint return, enter spouse's name shown on tax return	2b Second social security number if joint tax return

3 Current name, address (including apt., room, or suite no.), city, state, and ZIP code

4 Previous address shown on the last return filed if different from line 3

5 If the transcript or tax information is to be mailed to a third party (such as a mortgage company), enter the third party's name, address, and telephone number. The IRS has no control over what the third party does with the tax information.

Department of Communication, Cornell University, 320 Kennedy Hall, Ithaca, NY 14850
Phone: (607) 255-4452

Caution: If a third party requires you to complete Form 4506-T, do not sign Form 4506-T if lines 6 and 9 are blank.

6 **Transcript requested.** Enter the tax form number here (1040, 1065, 1120, etc.) and check the appropriate box below. Enter only one tax form number per request. ▶ 1040

- a** **Return Transcript**, which includes most of the line items of a tax return as filed with the IRS. Transcripts are only available for the following returns: Form 1040 series, Form 1065, Form 1120, Form 1120A, Form 1120H, Form 1120L, and Form 1120S. Return transcripts are available for the current year and returns processed during the prior 3 processing years. Most requests will be processed within 10 business days
- b** **Account Transcript**, which contains information on the financial status of the account, such as payments made on the account, penalty assessments, and adjustments made by you or the IRS after the return was filed. Return information is limited to items such as tax liability and estimated tax payments. Account transcripts are available for most returns. Most requests will be processed within 30 calendar days
- c** **Record of Account**, which is a combination of line item information and later adjustments to the account. Available for current year and 3 prior tax years. Most requests will be processed within 30 calendar days
- 7** **Verification of Nonfiling**, which is proof from the IRS that you **did not** file a return for the year. Most requests will be processed within 10 business days
- 8** **Form W-2, Form 1099 series, Form 1098 series, or Form 5498 series transcript.** The IRS can provide a transcript that includes data from these information returns. State or local information is not included with the Form W-2 information. The IRS may be able to provide this transcript information for up to 10 years. Information for the current year is generally not available until the year after it is filed with the IRS. For example, W-2 information for 2003, filed in 2004, will not be available from the IRS until 2005. If you need W-2 information for retirement purposes, you should contact the Social Security Administration at 1-800-772-1213. Most requests will be processed within 45 days

Caution: If you need a copy of Form W-2 or Form 1099, you should first contact the payer. To get a copy of the Form W-2 or Form 1099 filed with your return, you must use Form 4506 and request a copy of your return, which includes all attachments.

9 **Year or period requested.** Enter the ending date of the year or period, using the mm/dd/yyyy format. If you are requesting more than four years or periods, you must attach another Form 4506-T. For requests relating to quarterly tax returns, such as Form 941, you must enter each quarter or tax period separately.

12 / 31 / 2004 / / / / / /

Signature of taxpayer(s). I declare that I am either the taxpayer whose name is shown on line 1a or 2a, or a person authorized to obtain the tax information requested. If the request applies to a joint return, **either** husband or wife must sign. If signed by a corporate officer, partner, guardian, tax matters partner, executor, receiver, administrator, trustee, or party other than the taxpayer, I certify that I have the authority to execute Form 4506-T on behalf of the taxpayer.

Sign Here	Signature (see instructions)	Date	Telephone number of taxpayer on line 1a or 2a ()
	Title (if line 1a above is a corporation, partnership, estate, or trust)		
	Spouse's signature	Date	

APPENDIX 5: VILLAGE VOICE ADVERTISEMENT

Are you an ONLINE DATER?

If yes, participate in a Cornell Univ. study and get \$30 cash.

Visit dating.comm.cornell.edu

APPENDIX 6: CRAIGSLIST ADVERTISEMENT

Get Paid for Participating in an Online Dating Study (Cornell University)

A research team at Cornell University is running a study of self-presentation in online dating profiles. The study will last for about 45 min. and participants will be rewarded with **\$30 cash**. We are especially looking for males.

You are invited to participate if:

1. You are an active member of one of the following dating services:
 - Yahoo Personals
 - Match.com
 - MSN Match.com
 - American Singles
 - Webdate
2. You have been an online dater for at least one month.
3. You are at least 18 years old.

The study will take place at the New School University (near Union Square).

Sign up now at www.dating.comm.cornell.edu

If you have any questions, please send an email to dating@cornell.edu.

APPENDIX 7: ONLINE DATING STUDY WEBSITE

URL: www.dating.comm.cornell.edu

Welcome to Cornell University's online dating study website.

Professor Jeffrey T. Hancock, Director of the Computer-Mediated Communication Lab at Cornell University and Professor Nicole Ellison are conducting a study of self presentation in online dating profiles.

You are invited to participate if:

1. You are an active member of one of the following dating services:

Yahoo Personals

American Singles

Match.com

Webdate

MSN Match.com

2. You have been an online dater *for at least one month.*

As a participant, you are guaranteed confidentiality and will be rewarded for your time and effort with **\$30 cash.**

The study will last for about one hour and will take place at the New School University, near Union Square. You are responsible for providing your own transportation to and from the study location.

Sign Up

If you are selected to participate in our study we will interview you about your online dating profile. You will also fill out a few standard personality questionnaires and respond to a survey about your online dating practices. The location of the interview will be at the New School University, near Union Square. You must be at least 18 years old and must have used online dating services for at least one month to qualify for selection.

Please provide us with the following information so we can verify your eligibility and

contact you about participating in the study. Please note that this is university sponsored research, and that we will NOT release your information to any third party. If you have any questions, please send an email to dating@cornell.edu.

Registrant Information

First Name:

Last Name:

Email Address:

Confirm Email Address:

I use the following online dating service:

Screen Name:

If possible, please paste a link to your dating profile:

I have been an active member of this online dating service for at least one month:

I am over the age of 18:

APPENDIX 8: ONLINE DATING STUDY SELECTION EMAIL

Dear (*participant's name*),

You have been selected to participate in Cornell University's Online Dating Study. The research team has confirmed your eligibility and we are pleased to invite you for an interview.

IMPORTANT: Please visit

<http://www.appointmentquest.com/provider/2020071037> to schedule an appointment with the research team at a time that is convenient to you. The study will take place at the New School University, located at 65 Fifth Avenue.

Our study examines self-presentation in online dating profiles. We will interview you about your online dating practices, and ask you to fill out a few standard personality questionnaires and surveys. Please plan on spending about one hour with us. When you come for your appointment, please bring a valid driver's license or another form of identification. Please note that all the information you provide will be kept confidential and your participation in the study will be anonymous. You will receive your \$30 cash in compensation once you arrive for your appointment.

Thank you for signing up to participate in our study. Please feel free to contact the research team (Dr. Jeff Hancock, Dr. Nicole Ellison, Catalina Toma) at dating@cornell.edu should you have any questions whatsoever.

Sincerely,

Dr. Jeff Hancock

APPENDIX 9: APPOINTMENT CONFIRMATION EMAIL

Dear *(participant's name)*,

You have successfully registered to participate in Cornell University's Online Dating Study.

Your scheduled appointment is on *(appointment date)* at *(appointment start time)*, and will last for about an hour. The study will take place at the New School University, located at 65 Fifth Avenue (between 13th and 14th Streets). Please come to the lobby of the building about 10 minutes before your appointment. A researcher will meet you there. Please bring a valid driver's license or another form of identification when you come for your appointment.

All the information you provide will be kept confidential and your participation in the study will be completely anonymous. You will receive your compensation (\$30 cash) once you arrive for your appointment.

Thank you for participating in our study. Please feel free to contact me at dating@cornell.edu should you have any questions whatsoever.

Sincerely,

Dr. Jeff Hancock

APPENDIX 10: APPOINTMENT REMINDER EMAIL

Dear (*participant's name*),

This is a reminder that you are scheduled to participate in Cornell University's Online Dating study tomorrow on (*appointment date*) at (*appointment start time*). Please arrive 10 minutes in advance at The New School University, located at 65 Fifth Ave (between 13th and 14th Streets), and plan on spending about an hour with us. Catalina Toma, the researcher who will be conducting the interviews, will meet you in the lobby near the security desk.

IMPORTANT: If you can't make your appointment or need to change it, please email Catalina at dating@cornell.edu or call her at (646) 336-1471 as soon as possible.

Please remember to bring a valid driver's license or another form of identification. All the information you provide will be confidential and your participation in the study will be anonymous. You will receive your compensation (\$30 cash) once you arrive for your appointment.

Thank you for participating in our study. Please feel free to contact me at dating@cornell.edu should you have any questions whatsoever.

Sincerely,

Dr. Jeff Hancock

APPENDIX 11: SAMPLE PROFILE

match.com



seneca_nyc

Active within 1 week

close window

Basics

"Ode to my metrocard"

I am a: 36 yr old woman
located in: Jackson Heights, New York, United States
looking for: Dating: 37 to 48-year old man
within 15 miles of Jackson Heights, New York,
United States

relationships: Never Married
my ethnicity: White / Caucasian
body type: Athletic and toned
height: 5' 3" (160.0 cms)

About me and who I'd like to meet

I admit it -- I was on the verge of slapping a hipster for being too bed-headed and too cool. So I moved out of Williamsburg. Now that I'm three stops from Manhattan in Queens, I spend a little more time on the subway. Besides learning beginner-level subway-Spanish, I am comforted by the ads with before and after pictures of the complexion-challenged, and both horrified and secretly delighted whenever I spot a chihuahua-sized rat on the tracks. But the subway doesn't seem like the best place to meet that wonderful guy I'm looking for. I'd like to find someone whose keen observations make me laugh out loud. Throw in a healthy curiosity, a spirit of adventure and a wicked sense of humor and you'll definitely have my attention. I appreciate those who are self-possessed but not overly self-involved. You can count on me to be real. I can be witty, sometimes mischievous, usually subtle, often curious. I like to stay up late and I'm hardly ever bored. I love my work -- I'm an artist. I also love living in NY and have many wonderful friends here. But overall, I'm looking forward to that buzz that happens when there's a real connection. P.S. I'm spending the summer in the Boston area, but will spend a few weekends in NYC. I will return to NY permanently at the end of August.

Appearance

height: 5' 3" (160.0 cms)
eyes: Blue
hair: Blonde
body type: Athletic and toned
body art: No Answer
best feature: Hair

Interests

for fun:

I like to explore -- lately that's meant the neighborhoods like Chinatown in Flushing, India in Jackson Heights, Guyana in Jamaica Queens, and pioneers in the South Bronx

favorite hot spots:

Galleries in Chelsea and Williamsburg, watching the tugboats along the river, shopping for super-crisp apples at the farmers market.
Non-NY favorite spots: Les Calanques in Marseille & a private beach near Cape Coast in Ghana

favorite things:

learning the local language, catching a glimpse of something odd and curious, google searches before bed on that thing that confounded me during the day

last read:

The New Yorker, the New York Times, "You are Not a Stranger Here" by Adam Haslett and "The New York Co-op Bible"

sports and exercise:

Cycling: Martial arts: Walking / Hiking: Weights / Machines

common interests:

Alumni connections: Business networking: Book club/Discussion: Coffee and conversation: Cooking: Dining out: Hobbies and crafts: Movies/Videos: Museums and art: Music and concerts: Shopping/Antiques: Travel/Sightseeing

Lifestyle

exercise habits:

Exercise 3-4 times per week

daily diet:

Keep it healthy

smoke:

No Way

drink:

Social drinker, maybe one or two

job:

Artistic / Creative / Performance

income:

No Answer

my place:

Live alone

have kids:

None

want kids:

Definitely

how many:

1

pets:

I have:

No Answer

I don't have, but like:

Cats: Dogs

Background/Values

ethnicity:

White / Caucasian

faith:

Agnostic

grew up Protestant, though people seem to think my family is Catholic (I have four sisters and two brothers).

education:

Graduate degree

Public school K-12 (except 8th grade when I was home schooled in Japan), then Harvard, then Hunter.

languages:

English: French

politics:

Liberal

About My Date

hair:

Black: Light brown: Dark brown: Salt and pepper: Bald

eyes:

Any

height:

5' 6" (168.0 cms) to 6' 2" (188.0 cms)

body type: Slender: About average: Athletic and toned
languages: Any
ethnicity: Any
faith: Agnostic: Atheist: Buddhist / Taoist: Christian / Catholic: Christian / Protestant: Jewish: Spiritual but not religious: Other
education: Bachelors degree: Graduate degree: PhD / Post Doctoral
job: Any
income: Any
smoke: No Way: Occasionally
drink: Social drinker, maybe one or two
relationships: Never Married: Widowed: Divorced
have kids: Any
want kids: Definitely: Someday
turn-ons: No Answer
turn-offs: No Answer

Photos



APPENDIX 12: SURVEY

Name:

Gender: ____M, ____F

Age: ____

Native tongue:

Online dating service(s) used: ____Yahoo Personals, ____Match.com, ____MSN

Match.com, ____Webdate, ____American Singles

Screen name:

1. What are your goals in doing online personals? Please rank the following in order of importance to you, with 1 as “most important” and 4 as “least important”. Use each number only once.

- To make new friends and/or meet some interesting people
- To date a number and/or variety of interesting people
- To meet one special person with whom to establish a committed relationship
- To find a possible life or marriage partner

2. How long have you been using online dating services? ____years____months

3. How quickly do you prefer to meet potential partners face-to-face after your initial contact? _____

4. Which is your preferred medium of communication with potential partners before meeting with them face-to-face? Please check one.

- Email
- Instant Messenger
- Telephone

5. How many of the people you met online did you date more than once? _____

6. On average, on how many different dates do you tend to go on with people you meet through online personals? _____
7. Have you started a relationship with someone you met through online personals? Yes____, No _____. If yes, how many such relationships have you been involved in? _____
8. Have you married someone you met online? ___Yes, ___No
9. On a scale from 1 (least) to 5 (most), please rate your tendency to make substantial changes to your online dating profile on a regular basis. _____
10. On a scale of 1 (least) to 5 (most), how **accurately** do you think you describe yourself in your online dating profile? _____
11. On a scale of 1 (least) to 5 (most), how **comprehensively** do you think you describe yourself in your online dating profile? _____
12. On a scale of 1 (least) to 5 (most), how honest do you think other online daters are? _____
13. How many people whom you know personally are aware of your online dating profile? _____
14. Do you discuss your online dating profile and history with your friends and family? ___Yes, ___No
15. On a scale from 1 (least) to 5 (most), how anonymous do you feel your online dating profile is? _____

Are you familiar with the review site www.truedater.com? ___Yes, ___No

APPENDIX 13: SELF-MONITORING SCALE

The statements on the following pages concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE, or MOSTLY TRUE, as applied to you, blacken the space marked T on the answer sheet. If a statement is FALSE, or NOT USUALLY TRUE as applied to you, blacken the space marked F. It is important that you answer as frankly and as honestly as you can. Your answers will be kept in the strictest confidence.

1. I find it hard to imitate the behavior of other people.
2. My behavior is usually an expression of my true inner feelings, attitudes and beliefs.
3. At parties and social gatherings, I do not attempt to do or say things that others will like.
4. I can only argue for ideas which I already believe.
5. I can make impromptu speeches even on topics about which I have almost no information.
6. I guess I put on a show to impress or entertain people.
7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
8. I would probably make a good actor.
9. I rarely need the advice of my friends to choose movies, books, or music.
10. I sometimes appear to others to be experiencing deeper emotions than I actually am.
11. I laugh more when I watch a comedy with others than when alone.
12. In a group of people I am rarely the center of attention.

13. In different situations and with different people, I often act like very different persons.
14. I am not particularly good at making other people like me.
15. Even if I am not enjoying myself, I often pretend to be having a good time.
16. I'm not always the person I appear to be.
17. I would not change my opinions (of the way I do things) in order to please someone else or win their favor.
18. I have considered being an entertainer.
19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
20. I have never been good at games like charades or improvisational acting.
21. I have trouble changing my behavior to suit different people and different situations.
22. At a party, I let others keep the jokes and stories going.
23. I feel a bit awkward in company and do not show up quite so well as I should.
24. I can look anyone in the eye and tell a lie with a straight face (if for the right end).
25. I may deceive people by being friendly when I really dislike them.

BIBLIOGRAPHY

- Ahuvia, A. C., & Adelman, M. B. (1992). Formal intermediaries in the marriage market: A typology and review. *Journal of Marriage and the Family*, 54, 452-463.
- Baker, A. (2002). What makes an online relationship successful? Clues from couples who met in cyberspace. *CyberPsychology & Behavior*, 5, 363-375.
- Baumeister, R. F. (1982). A self-presentational view of social phenomena. *Psychological Bulletin*, 91, 3-26.
- Baumeister, R. F., & Cairns, K. J. (1992). Repression and self-presentation: When audiences interfere with self-deceptive strategies. *Journal of Personality and Social Psychology*, 62, 851-862.
- Baumeister, R. F., & Leary, M. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin*, 117, 497-529.
- Berger, C. R. (1987). Communication under uncertainty. In M. E. Roloff & G. R. Miller (Eds.) *Interpersonal Processes: New Directions in Communication Research*. Beverly Hills, CA: Sage.
- Berger, C. R., & Bradac, J. J. (1982). Language and social knowledge: Uncertainty in interpersonal relations. London: Arnold.
- Bowker, N., & Tuffin, K. (2003). Dicing with deception: People with disabilities' strategies for managing safety and identity online. *Journal of Computer-Mediated Communication*, 8. Retrieved December 21, 2005, from <http://jcmc.indiana.edu/vol8/issue2/bowker.html>
- Brym, R. J., & Lenton, R. L. (2001). *Love Online: A Report on Digital Dating in Canada*. Retrieved January 13, 2006, from <http://www.nelson.com/nelson/harcourt/sociology/newsociety3e/loveonline.pdf>
- Buller, D. B., & Burgoon, J. K. (1994). Deception: Strategic and nonstrategic communication. In J. A. Daly & J. M. Wiemann (Eds.), *Strategic Interpersonal Communication* (pp. 191-223). Hillsdale, NJ: Erlbaum.
- Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. *Communication Theory*, 6, 203-242.
- Buss, D. (2003). *The evolution of desire: strategies of human mating*. Basic Books.

- Buss, D. M. (1988). The evolution of human intrasexual competition: Tactics of mate attraction. *Journal of Personality and Social Psychology*, *54*, 616-628.
- Buss, D. M., & Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality & Social Psychology*, *50*, 559-570.
- Buss, D. M., & Schmitt, D. P. (1993). Social strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204-232.
- Carlson, J. R., George, J. F., Burgoon, J. K., Adkins, M., & White, C. H. (2004). Deception in computer-mediated communication. *Group Decision and Negotiation*, *13*, 5-28.
- Crowne, D. P., & Marlowe, D. (1964). *The approval motive*. New York: Wiley.
- Culnan, M. J., & Markus, M. L. (1987). Information technologies. In F. M. Jablin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of organizational communication: An interdisciplinary perspective* (pp. 420-443). Newbury Park, CA: Sage.
- DePaulo, B. M., & Kashy, D. A. (1998). Everyday lies in close and casual relationships. *Journal of Personality & Social Psychology*, *74*, 63-79.
- DePaulo, B. M., Zuckerman, M., & Rosenthal, R. (1980). Humans as lie detectors. *Journal of Communication*, *30*, 129-139.
- DePaulo, B., Kashy, D., Kirkendol, S., Wyer, M., & Epstein, J. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, *70*, 979-995.
- Derlega, V., Winstead, B., Wong, P., & Greenspan, M. (1987). Self-disclosure and relationship development: An attributional analysis. In M. E. Roloff & G. R. Miller (Eds.), *Interpersonal Processes: New Directions in Communication Research* (pp. 172-187). Thousand Oaks, CA: Sage.
- Diener, E., Suh, E., & Oishi, S. (1997). Recent findings on subjective well-being. *Indian Journal of Clinical Psychology*. Retrieved September 26, 2005, from <http://www.psych.uiuc.edu/~ediener/hottopic/paper1.html>
- Donath, J. S. (1999). Identity and deception in the virtual community. In M. A. Smith & P. Kollock (Eds.), *Communities in cyberspace* (pp. 29-50). New York: Routledge.
- Donn, J., & Sherman, R. (2002). Attitudes and practices regarding the formation of romantic relationships on the Internet. *CyberPsychology & Behavior*, *5*, 107-123.

- Druen, P. B., Cunningham, M. R., Barbee, A. P., & Yankeelov, P. (1998). *Deception, honesty and the illusion of conformity: The dilemma of clashing expectations between romantic partners*. Manuscript in preparation.
- Egan, J. (2003, November 23). Love in the time of no time. *The New York Times*. Retrieved August 16, 2005, from <http://www.nytimes.com/2003/11/23/magazine/23ONLINE.html?ex=1070719885&ei=1&en=fcd72235b67ffb79>
- Ekman, P. (1985). Telling lies: Clues to deceit in the marketplace, politics and marriage. New York: W.W. Norton.
- Ekman, P., & Friesen, W. V. (1969). Nonverbal leakage and clues to deception. *Psychiatry*, 32, 88-105.
- Ellison, N., Donnellan, B. and Lucas, R. (2005). *Online Self-Presentation as a Tool for Achieving the "Ideal Self."* Paper presented at Internet Research 6.0: The Association of Internet Researchers Conference, Chicago, IL , October, 2005.
- Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. *Journal of Computer-Mediated Communication*, 11, article 2. <http://jcmc.indiana.edu/vol11/issue2/ellison.html>
- Feldman, R. S., Forrest, J. A., & Happ, B. R. (2002) Self-presentation and verbal deception: Do self-presenters lie more? *Basic and Applied Social Psychology*, 24, 163-170.
- Fiore, A. T., & Donath, J. (2004). *Online Personals: An Overview*. Paper presented at the meeting of ACM Computer-Human Interaction 2004, Vienna, Austria. Retrieved December, 20, 2005, from http://smg.media.mit.edu/papers/atf/chi2004_personals_short.pdf
- Gibbs, J. L., Ellison, N. B., & Heino, R. D. (2006). Self-presentation in online personals: The role of anticipated future interaction, self-disclosure, and perceived success in Internet dating. *Communication Research*, 33, 1–26.
- Glick, P. (1985). Orientations toward relationships: Choosing a situation in which to begin a relationship. *Journal of Experimental Social Psychology*, 21, 544-562.
- Goffman, E. (1959). *The Presentation of Self in Everyday Life*. New York: Anchor.

- Greenspan, R. (2003). Socializing surfers shop for friends, dates. *Clickz*. Retrieved August 17, 2005, from http://www.clickz.com/stats/big_picture/traffic_patterns/article.php/5931_3114251
- Hancock, J. T., Woodworth, M., & Goorha, S. (in press). See no evil: The effect of communication medium and motivation on deception detection. *Group Decision and Negotiation*.
- Hancock, J., Thom-Santelli, J., & Ritchie, T. (2004). Deception and design: The impact of communication technology on lying behavior. In E. Dykstra-Erickson & M. Tscheligi (Eds.), *Proceedings of the 2004 Conference on Human Factors in Computing Systems* (pp. 129-134). New York: ACM.
- Hancock, J.T., Curry, L., Goorha, S., & Woodworth, M.T. (2004). Lies in conversation: An examination of deception using automated linguistic analysis. *Proceedings, Annual Conference of the Cognitive Science Society*, 26, 534-540. Mahwah, NJ: LEA.
- Heino, R. D., Ellison, N. B., & Gibbs, J. L. (May, 2005). Are we a 'match'? Choosing partners in the online dating market. Paper presented at the International Communication Association convention, New York, NY.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94, 319-340.
- Hirschman, E. C. (1987). People as products: Analysis of a complex marketing exchange. *Journal of Marketing*, 51, 98-108.
- Hitsch, G. J., Hortacsu, A., & Ariely, D. (2004). *What makes you click: An empirical analysis of online dating* (Working Paper). Retrieved July 18, 2005, from http://rover.cs.northwestern.edu/~surana/blog/extras/online_dating.pdf
- Jagger, E. (2001). Marketing Molly and Melville: Dating in a postmodern, consumer society. *Sociology*, 35, 39-57.
- Joinson, A. N., & Dietz-Uhler, B. (2002). Explanations for the perpetration of and reactions to deception in a virtual community. *Social Science Computer Review*, 20, 275-289.
- Jones, E. E. (1990). *Interpersonal perception*. New York: W.H. Freeman.
- Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (Vol. 1, pp. 231-262). Hillsdale, NJ: Erlbaum.

- Jones, E. E., & Wortman, C. (1973) *Ingratiation: An attributional approach*. Morristown, NJ: General Learning Press.
- Kiesler, S. (1986, January-February). The hidden messages in computer networks. *Harvard Business Review*, pp. 46-54, 58-60.
- Knapp, M. L. & Comadena, M. E. (1979). Telling it like it isn't: A review of theory and research on deceptive communication. *Human Communication Research* 5, 170-185.
- Lance, L. (1998). Gender differences in heterosexual dating: A content analysis of personal ads. *Journal of Men's Studies*, 6, 297-305.
- Lea, M., & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. T. Wood & S. Duck (Eds.). *Under-studied relationships: Off the beaten track* (pp. 197-233). Thousand Oaks, CA: Sage.
- Leary, M. & Kowalski, R. (1995). *Social anxiety*. New York The Guildford Press.
- Leone, C., & Hawkins, L. B. (2006). Self-monitoring and close relationships. *Journal of Personality*, 74, 739-777.
- Lynn, M., & Bolig, R. (1985). Personal advertisements: Sources of data about relationships. *Journal of Social and Personal Relationships*, 2, 377-383.
- Match.comnewscenter. (2004). Retrieved August 2, 2005, from http://corp.match.com/news_center/nc_at_a_glance.aspx
- McKenna, K. Y. A., Green, A. S., & Gleason, M. E. J. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues*, 58, 9-31.
- Metts, S. (1989). An exploratory investigation of deception in close relationships. *Journal of Social and Personal Relationships*, 6, 169-179.
- Myers, D. G. (1987). "Anonymity is part of the magic": Individual manipulation of computer-mediated communication contexts. *Qualitative Sociology*, 10, 251-266.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, 6, 10-19.
- Orr, A. (2004). *Meeting, mating, and cheating. Sex, love, and the new world of online dating*. Upper Saddle River, NJ: Reuters Prentice Hall.
- Paulhus, D. L., & Reid, D. B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.

- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment, 5*, 164-172.
- Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. W. Duck (Ed.), *Handbook of personal relationships* (pp. 367-389). Chichester, UK: Wiley.
- Rheingold, H. (1993). *The Virtual community: Homesteading on the electronic frontier*. Reading, MA: Addison-Wesley.
- Rosenberg, M. (1989). *Society and the adolescent self-image* (Revised ed.). Middletown, CT: Wesleyan University Press.
- Rowatt, W. C., Cunningham, M. R., & Druen, P. B. (1998). Deception to get a date. *Personality & Social Psychology Bulletin, 24*, 1228-1242.
- Rowatt, W. C., Cunningham, M. R., & Druen, P. B. (1999). Lying to get a date: The effect of facial physical attractiveness on the willingness to deceive prospective dating partners. *Journal of Social and Personal Relationships, 16*, 209-223.
- Schlenker, B. R. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Monterey, CA: Brooks/Cole.
- Schlenker, B. R., & Pontari, B. A. (2000). The strategic control of information: Impression management and self-presentation in daily life. In A. Tesser, R. B. Felson, & J. M. Suls (Eds.), *Psychological Perspectives on Self and Identity* (pp. 199-232). Washington, DC: American Psychological Association.
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: Wiley.
- Snyder, M. (1987). *Public appearances/private realities: The psychology of self-monitoring*. New York: Freeman.
- Snyder, M., Berscheid, E., & Glick, P. (1985). Focusing on the exterior and the interior: Two investigations of the initiation of personal relationships. *Journal of Personality and Social Psychology, 48*, 1427-1439.
- Sproull, L., & Kiesler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. *Management Science, 32*, 1492-1512.
- Sproull, L., & Kiesler, S. (1991). *Connections: New ways of working in the networked organization*. Cambridge, MA: MIT Press.

- Stone, A. R. (1996). *The war of desire and technology at the close of the mechanical age*. Cambridge, MA: MIT Press.
- Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, *30*, 526-537.
- Tooke, W., & Camire, L. (1991). Patterns of deception in intersexual and intrasexual mating strategies. *Ethology & Sociobiology*, *12*, 345-364.
- Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon and Schuster.
- Van Gelder, L. (1996). The strange case of the electronic lover: A real-life story of deception, seduction, and technology. In R. Kling (Ed.), *Computerization and controversy: Value conflicts and social choices*, (2nd ed., pp. 533-546). San Diego, CA: Academic Press.
- Waister, H. E., Aronson, V., Abrahams, D., & Rottman, L. (1966). Importance of physical attractiveness in dating behavior. *Journal of Personality and Social Psychology*, *4*, 508-516.
- Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, *19*, 52-91.
- Walther, J. B. (1994). Anticipated ongoing interaction versus channel effects on relational communication in computer mediated interaction. *Human Communication Research*, *20*, 473-501.
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, *23*, 3-44.
- Walther, J. B. (2005). *Selective Self-Presentation in Computer-Mediated Communication: Hyperpersonal Dimensions of Technology, Language, and Cognition*. Working Paper.
- Walther, J. B., & Burgoon, J. K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*, *19*, 50-88.
- Walther, J. B., & Parks, M. R. (2002). Cues filtered out, cues filtered in: Computer-mediated communication and relationships. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of Interpersonal Communication* (3rd ed., pp. 529-563). Thousand Oaks, CA: Sage.

- Walther, J. B., & Tidwell, L. C. (1995). Nonverbal cues in computer-mediated communication, and the effect of chronemics on relational communication. *Journal of Organizational Computing and Electronic Commerce*, 5, 355-378.
- Walther, J. B., Anderson, J. F., & Park, D. D. (1994). Interpersonal effects in computer-mediated interaction: A meta-analysis of social and antisocial communication. *Communication Research*, 21, 460 - 487.
- Woll, S., & Cozby, P. C. (1987). Videodating and other alternatives to traditional methods of relationship initiation. *Advances in Personal Relationships*, 1, 69-108.