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SHYNESS AND SHAME IN ONLINE DATING

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Dedication

This project is dedicated to all the friends and family that supported me.

To Andy

for being so very patient and supporting me even when

I didn't want to hear it.

To Monisha, Molly, and Laura

for the moral support and understanding without which I would not

have been able to make it through this process.

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and believing in me.

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who's genuine interest in this topic helped me believe that this dissertation

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Shyness and Shame in Online Dating

Introduction

Internet use has increased dramatically in recent years. According to the Pew Internet and American Life Project, adult Internet use has increased from 53 percent in 2001 to 81 percent in 2010 (“Internet Adoption,” 2010). Although data indicates that adult Internet use had been around 75-80 percent since 2008, much of the available research on individuals who use the Internet was completed ten or more years ago. This begs the question whether this older research still applies to Internet users today.

Investigations of Internet use have included shyness as a potential predictor of time spent online, online behavior, and Internet use in general, among others. Results have been mixed. Shyness has been indicated as a potential motivator for using computer-mediated communication, or any form of communication that takes place online, including email, instant messaging, and communication through social media sites (McKenna, Green, & Gleason, 2002; Roberts, Smith, & Pollock, 2000; Stritzke, Nguyen, & Durkin, 2004; Weidman, Fernandez, Levinson, Augustine, Rochester et al., 2012). These results indicate that shy individuals feel more comfortable communicating online, potentially because cues generally used to evaluate someone while interacting with them face-to-face are not present. Although shy individuals may differ from less shy individuals in their motivations for certain aspects of Internet use, such as computer-mediated communication, they do not appear to differ from less shy individuals in the amount of time they spend online (Bardi & Brady, 2010; Chak & Leung, 2004; Madell & Muncer, 2006; Scealy, Phillips, & Stevenson, 2002). However, shy individuals may be at increased risk for negative outcomes of Internet use, such as problematic Internet use, when other risk factors are also present (Chak & Leung,

2004; Ebeling-Witte, Frank, & Lester, 2007; Yuen & Lavin, 2004). However, findings in this area are mixed (Casale & Fioravanti, 2011; Ceyan, 2011). Research on problematic Internet use has generally focused on adolescents or college students (De Leo & Wulfret, 2012). Studies have determined that problematic Internet use also leads to negative outcomes such as loneliness (Kim, LaRose, & Peng, 2009), missing school and work activities (Caplan, 2007), and depression (Whang, Lee, & Chang, 2003). Mazer and Ledbetter (2012) found that compulsive Internet use (i.e., difficulty stopping, reducing, or controlling online behavior) was associated with poor overall well-being, as assessed by a measure that asked participants to rate how often they “Felt nervous or worried,” “Felt ‘low’ or depressed,” “Had a headache,” “Had a stomachache,” etc. (Dornbush, Mont-Reynaud, Ritter, Chen, & Steinberg, 1991). Excessive Internet use (i.e., spending excessive amounts of time online) was not associated with poor well-being (Mazer & Ledbetter, 2012). While problematic Internet use has not been shown to be related to risky behaviors such as drug or alcohol use or poor academic performance in students (De Leo & Wulfret, 2012), it was shown to be related to social anxiety, depression, and family conflict (as measured by the Family Environment Scale; Moos & Moos, 1986). De Leo and Wulfret (2012) postulate that these individuals may prefer the online environment as it offers an escape from psychological distress, but may also create a method for these individuals to avoid dealing with their psychological or interpersonal difficulties. Therefore, while individuals with depression, anxiety, and difficult home environments may be more likely to develop problematic Internet use, it appears as though problematic Internet use may also make it more difficult to correct these problems.

Regardless of whether or not an individual is shy, there does appear to be evidence to support a stigma against online dating (Anderson, 2005; Doan, 2011; Donn & Sherman,

2002; Madden & Lenhart, 2006; Wildermuth, 2004). Shame has been associated with stigma (Gilbert, 1992, 2002). There has been little investigation into the relationship of shyness and shame, although they may share some characteristics (Ebeling-Witte et al., 2007; Einstein & Lanning, 1998; Henderson, 2002; Kalliopuska, 2008). It may be that shy individuals who experience more shame may be more susceptible to experiencing stigma when involved in online relationships. Research indicates that 11 percent of all American Internet users have visited online dating sites (Madden & Lenhart, 2006), and this percentage has likely increased since the data were collected. Except for determining the presence of a stigma, there has been little research into what contributes to the stigma against online relationships and online dating. Given the potential relationships of shyness to motivations for computer-mediated communication (McKenna et al., 2002; Roberts et al., 2000; Stritzke et al., 2004; Weidman et al., 2012) and the relationship of shame to stigma (Gilbert, 1992, 2002), these characteristics will be investigated to help explain the stigma against online dating.

Internet Use and Shyness

Shyness refers to an inhibition of expected social behavior with feelings of embarrassment and discomfort in social situations, especially when strangers or unfamiliar people are involved (Buss, 1985). Shyness has been implicated in Internet use in general (Baker & Oswald, 2010; Ebeling-Witte et al., 2007), as well as in online relationship involvement specifically (Sheeks & Birchmeier, 2007; Ward & Tracey, 2004), with mixed results to be discussed below.

Computer-Mediated Communication. Computer-mediated communication is a term used to describe communication that occurs through electronic media, such as electronic mail, instant messaging, text messaging (Baker & Oswald, 2010), chat-rooms, and social

media sites (Orr, Sisic, Ross, Simmering, Arseneault, & Orr, 2009). There does not appear to be a strict definition of computer-mediated communication in the literature, and some studies neglect to define it at all. For the purpose of this investigation, the term computer-mediated communication will include any text-based communication that is achieved using a computer (e.g., instant messaging, electronic mail, chat rooms, social networking sites, etc.). Other non-text-based communication that occurs through computers (e.g., video chatting) will be specified as such.

Saunders and Chester (2008) suggest shy individuals lack confidence in their ability to create a favorable impression of themselves with others and therefore tend to adopt a protective self-presentation style in social interaction. Computer-mediated communication may therefore be a more desirable way to communicate for shy individuals, as verbal and nonverbal cues that people can use to evaluate others are absent (Roberts et al., 2000). Findings from an experimental study by McKenna, Green, and Gleason (2002) agree. Participants were paired with an opposite-sex partner and instructed to get to know their partner during two 20-minute sessions. Participants were randomly assigned to either the control group, in which they met their partner face-to-face for both meetings, the “IRC” condition, in which they chatted online and then met face-to-face, or the “trading places” condition, in which they chatted online and met their partner, but were unaware they were meeting the same person. Participants who first chatted online with their partners liked them significantly more after the second session than the participants who met in person both times. Participants in the IRC condition reported liking their partner more as conversation quality measures increased, such as feeling they knew their partner and feeling they had been able to share personal things. This was also true for the trading places condition when they

chatted online. Participants in the control condition had no correlation between conversation quality measures and reported liking of partners. These results held for the trading places condition, as the participants were unaware that they were meeting the same person. The authors suggest that this occurred because traditional “gating features” used to evaluate people, such as physical attractiveness, were present in the control group and not the IRC condition. Therefore, in the IRC condition, the quality of the conversation, and not physical attributes or cues, had to be relied upon in order to form an impression of the partner.

Stritzke, Nguyen, and Durkin, (2004) determined that there is a difference in online and offline communication between shy and non-shy individuals. A significant difference was reported in rejection sensitivity, initiating relationships, and self-disclosure in the offline context between shy and non-shy individuals, but not online. The authors suggest that the removal of visual and auditory cues associated with negative or inhibitory feedback may increase comfort of shy individuals in the online environment. The study also indicated that both shy and non-shy individuals were less shy online, indicating that the removal of additional cues and perhaps more ease in impression management facilitates reduction in inhibition.

A study measuring levels of social anxiety and Internet communication strategies found that individuals higher in social anxiety reported being more comfortable and more able to self-disclose when communicating online than less socially anxious individuals (Weidman et al., 2012). More socially anxious individuals also reported less self-disclosure when communicating in face-to-face situations and rated the reduced social pressures of online communication as more important. Social anxiety was also associated with lower self-

reported quality of life and higher self-reported depression symptoms in those individuals who communicated frequently online.

Although shyness may be related to preference for using computer-mediated communication, several studies have found that shyness does not affect the amount of time spent using various aspects of the Internet (Bardi & Brady, 2010; Chak & Leung, 2004; Madell & Muncer, 2006; Scealy et al., 2002). An investigation by Madell and Muncer (2006) found that social anxiety, as measured by Mattick and Clarke's Social Phobia (SPS) and Social Interaction Anxiety (SAIS) scales (Mattick & Clarke, 1998), were not highly correlated with Internet use. This finding held up for general use as well as communication purposes. Indeed, individuals reporting social anxiety were found to use email less frequently than less socially anxious individuals. This somewhat agrees with findings from another study (Chak & Leung, 2004). Madell and Muncer's investigation, conducted in Hong Kong, indicated that shy males specifically were less likely to use email than non-shy individuals, and did not find online communication easier than offline communication. Additionally, level of shame did not affect time on the Internet, while there were differences between full-time and part-time students (Chak & Leung, 2004). A study by Scealy and colleagues (2002) found that although shyness did not predict the amount of time spent on the Internet or use of Internet communication mediums, it was predictive of using the Internet for recreation/leisure information searches. That is, shy individuals were more likely to use the Internet for these types of searches than non-shy individuals. The significance of this finding was increased when considering only shy males. The authors speculate that increase in recreational Internet use for shy individuals, especially males, may be due to the

lack of social contact that is involved in these searches, as shy individuals are likely to be more comfortable finding information in this way.

Bardi and Brady (2010) found no difference between shy and non-shy individuals in the amount of time spent using instant messaging, a text-based form of Internet communication taking place in real time. Participants overall were found to use instant messaging for personal contact motives (e.g., “I use instant messaging to feel involved in what’s going on with other people”) as opposed to decreasing loneliness motives (e.g., “I use instant messaging so I would not have to feel so alone”) or social ease motives (e.g., “I use instant messaging because it is more comfortable than talking to people face-to-face”). However, shy individuals were more likely to use instant messaging for decreasing loneliness. This indicates that while there may be no difference in the amount of time spent using this method of online communication, shy individuals have different motivation for using this medium than less shy individuals.

Brunet and Schmidt (2008) employed an experimental design to examine how shyness affected different online communication mediums. Undergraduate participants were divided into high and low shyness groups based on their Cheek and Buss Shyness Scale (CBSS; Cheek & Buss, 1981) scores. Participants were paired in high and low shyness pairs and instructed to get to know one another through a 20-minute online chat session. Participants were also assigned to a webcam or instant messaging chat session. Research assistants blind to the method of online communication coded transcripts of the chats. Shy individuals engaged in significantly fewer spontaneous self-disclosures than their non-shy partner in the webcam condition. Spontaneous self-disclosure did not differ between groups in the instant messaging condition. Communication medium did not appear to affect the use

of affective language. Shy individuals, regardless of communication medium, used significantly fewer active and pleasant words than non-shy individuals. These results seem to suggest that shyness may affect some computer-mediated communication methods more than others. Unfortunately, this study had a fairly low sample size: 14 high and 14 low shy participants. Also, all participants were female. Therefore, this study should be replicated with a larger, more diverse population in order to further validate the results.

Overall, there appears to be some disagreement in the literature as to whether or not shy individuals find computer-mediated communication to be easier than face-to-face communication. Although it appears that in general, shy individuals may not be using computer-mediated communication more than less shy individuals, there does not appear to be agreement on whether or not their motives differ. It may be that as Internet use for many different aspects of life becomes increasingly common (addressed in more detail in a later section), both shy and less shy individuals' patterns of and motives for Internet use will change.

Facebook Use. Several studies have investigated the relationship between shyness and aspects of social media use, such as with Facebook (Baker & Oswald, 2010; Orr et al., 2009; Sheldon, 2012). Social media sites, such as Facebook, are online websites that allow individuals to create personal profiles that can be viewed by other users in an attempt to establish and increase an online social network (Orr et al., 2009). Orr and colleagues (2009) investigated the effect of shyness on the use of Facebook, using an undergraduate sample. The study indicated that shyness, as measured by the Revised Cheek and Buss Shyness Scale (RCBS-20; Cheek & Melchior, 1985) significantly predicted the number of Facebook friends an undergraduate had, as well as the amount of time spent on Facebook, with shy individuals

spending more time and having fewer friends. Shy individuals also reported more favorable attitudes toward Facebook than did non-shy individuals. The authors interpret their findings that shy individuals spend more time on Facebook than less shy individuals indicating that they regard Facebook as an appealing method of communication. Orr and colleagues (2009) further speculate that this may be because using Facebook removes many of the verbal and nonverbal cues associated with face-to-face communication, therefore providing the individual with more anonymity.

Baker and Oswald (2010) also investigated the effect of shyness on Facebook use. The study found that individuals scoring higher on the RCBS-20 (Cheek & Melchior, 1985) found more satisfaction, importance, and closeness in their relationships with Facebook friends than reported for less shy individuals. Facebook use was also associated with higher perceived social support from friends for individuals who rated themselves as shy. For less shy individuals, none of these factors were associated with Facebook use. It should also be noted that shy participants with high Facebook use reported similar levels of satisfaction, closeness and importance of relationships compared to the less shy participants. This indicates that shy individuals are able to use social media sites, such as Facebook, to maintain the same quality of relationships that less shy individuals experience. For example, participants in the shy group reported that Facebook helped them get to know others better, indicating that Facebook may be able to fill in the gaps of missed opportunities in face-to-face interactions due to shyness. Finally, the study found that shyness predicted loneliness, which was not affected by Facebook use. The authors therefore suggest that comfort with others on Facebook did not necessarily translate to comfort interacting with others in real-life situations.

A study by Sheldon (2012) indicates that distinctions can be made between Facebook users and nonusers. Although a relatively small proportion of the sample did not use Facebook (14 percent), loneliness and shyness were found to be two of the three best positive predictors of not using Facebook, the best predictor being age. Facebook users were also found to be more sensation seeking, to take more trips with others, and to be involved in more activities, even when controlling for age. Sheldon suggests that these findings support a rich-get-richer hypothesis of social interaction, in that less shy and less lonely individuals are the ones taking advantage of online social media sites, such as Facebook. Sheldon also speculates that the lack of anonymity on Facebook makes it less desirable to individuals who already have difficulty with face-to-face interactions.

These studies suggest that while shy individuals may find social media sites such as Facebook to be appealing, less shy individuals do as well. Shy individuals may find interactions on these sites to be more meaningful than less shy individuals, but this does not necessarily translate to more meaningful face-to-face interactions. While the authors of these studies speculate about the possible causes of these findings, the actual investigation into causal factors has been sparse. Future research should be aimed at understanding the differences in social media site use of shy and non-shy individuals, rather than simply describing them.

Problematic Internet Usage. Several studies have examined the relationship between shyness and problematic Internet use (Casale & Fioravanti, 2011; Ceyan, 2011; Chak & Leung, 2004; Ebeling-Witte et al., 2007; Yuen & Lavin, 2004). While it appears that shyness generally does not predict the amount of time spend on the Internet (Bardi & Bradi, 2010; Scealy, et al., 2002), it may be somewhat related to problematic Internet use or Internet

dependence. Chak and Leung (2004) and Yuen and Lavin (2004) investigated shyness and its relationship to Internet dependence as defined by questions about participants' patterns of Internet use. A high level of shyness as measured by the Revised Cheek and Buss Shyness Scale (RCBSS-13; Cheek & Buss, 1981) was associated with a moderate increase in Internet dependence (Chak & Leung, 2004). External locus of control (e.g., believing that powerful others/chance control life) was also associated with difficulty controlling Internet use (e.g., staying online longer than originally intended, potential loss of significant relationships or job due to Internet use). Full-time students were also more likely than non-full-time students to exhibit Internet dependence, even though full-time students use the Internet less frequently (Chak & Leung, 2004). Further, Internet dependent undergraduates reported high levels of shyness in face-to-face interactions, and significantly less shyness online (Yuen & Lavin, 2004).

A study by Ebeling-Witte and colleagues (2007) investigated the relationships between shyness, other personality characteristics such as neuroticism, and problematic Internet use (i.e. using online virtual relationships to correct for perceived deficits in real-life social interactions). Shyness was related to problematic Internet use and neuroticism, and negatively related to extraversion and social support. Shyness was also related to staying online longer and thinking about the Internet more than participants believed that they should. Therefore, it appears that shy individuals use the Internet to carry out virtual social interaction, even when they perceive their Internet use as problematic.

A study of Italian undergraduates identified loneliness as a predictor of problematic Internet usage, but not of self-esteem or depression (Casale & Fioravanti, 2011). As with other, more recent research, shyness, as measured by the CBSS (Cheek & Buss, 1981), was

not found to be a predictor of problematic Internet use, even when it was significantly related to perceived social benefits of the Internet. Individuals who used computer-mediated communication, such as chat rooms, instant messaging, forums, and blogging, showed a stronger relationship to problematic Internet use. This agrees with another study indicating individuals who use the Internet for entertainment or to establish social relationships with unfamiliar people also appear to be at increased risk for problematic Internet use (Ceyan, 2011).

These studies indicate that while shyness may not be related to time spent on the Internet in the general population, there may be a smaller subset of shy individuals who are at risk for Internet dependence. This literature indicates that shy individuals who also have a full-time student status, high levels of neuroticism and have an external locus of control may be at increased risk for Internet dependence. However, additional factors that may appear to be related to shyness at face value, such as loneliness and using the Internet to establish relationships, may be more indicative of problematic Internet use in shy individuals who are not part of the aforementioned subset of shy individuals who may be at increased risk.

Involvement in Online Relationships. Ward and Tracey (2004) examined the relationships between shyness and involvement in online relationships (i.e., friendships and romantic relationships). Individuals involved in online relationships rated themselves higher on measures of shyness (RCBSS; Cheek, 1983) and computer confidence than individuals not involved in online relationships. Shyness was related to difficulties in face-to-face relationships and also difficulties in online relationships, although to a lesser extent. There was a significant difference between factors of relationship involvement (e.g., number

friends, initiation behaviors, disclosure, social support, and relationships satisfaction) for shy individuals in face-to-face and online relationships.

A study by Sheeks and Birchmeier (2007) further examined online relationship development in shy individuals. Participants who were both shy and sociable (i.e., reported internal motivation to be with and get to know others) were somewhat more likely to report closer and more satisfying online relationships than participants who were lower in these traits. However, computer-mediated communication (e.g., emailing and online chatting) was not correlated with shyness or sociability, but was correlated with reported closeness in online relationships. Given the small sample size, it would be important to repeat this study with a large sample size. As such, it appears that computer-mediated communication plays a role in the perceived closeness of relationships that begin online, and this appears to be true for both shy and non-shy individuals.

Stigma. Regardless of whether or not an individual is shy, there appears to be a stigma against involvement in online relationships (Anderson, 2005; Doan, 2011; Donn & Sherman, 2002; Wildermuth, 2004). Wildermuth (2004) investigated the effect of negative evaluations from friends and family upon individuals involved in online relationships. The study examined several variables, including disapproval and severity of language, stigma consciousness, and quality of relationships. The study recruited adults currently or recently involved in online relationships (i.e., relationships conducted exclusively online and/or relationships that began online and moved offline) through online advertisements that linked to online questionnaires. The level of severity and disapproval in messages received from friends and family was found to affect an individual's level of stigma consciousness. Overall, level of stigma consciousness had the largest impact on a participant's attitude towards their

online relationship, in that there was no relationship between message severity, disapproval, and relationship quality when the effects of stigma consciousness were controlled for.

Therefore, it appears that individuals who are aware of a stigma against online relationships had the most affected relationship quality. However, it also appears that severe and disapproving messages from family and friends increased an individual's level of stigma awareness.

Conversely, Anderson (2005) investigated perception of online relationships in a sample of undergraduates who had never been involved in online relationships. Internet affinity, measured by a questionnaire with such items as "spending time on the Internet is one of the most important things I do each day," was associated with more positive perceptions of online romantic relationships. Interestingly, as romantic beliefs increased, perceptions of online romantic relationships became more negative. Romantic beliefs were assessed by a questionnaire with such items as, "I am likely to fall in love almost immediately if I meet the right person" and "I believe if another person and I love each other we can overcome any differences and problems that may arise." The author speculated that romantic beliefs might be linked to more conventional beliefs about love and romance, which would preclude more positive beliefs about online relationships.

Donn and Sherman (2002) compared undergraduate and graduate students' perceptions of online relationships. Overall, graduate students had more positive perceptions of online relationships and were more likely to have met someone in person they met for the first time online. It is notable that few participants from either group reported being involved in significant relationships started online; a larger number indicated they knew someone who developed a relationship online. Both groups were concerned that people online lie about

themselves, undergraduates more so than graduate students. Undergraduates were also more likely to view online relationships as “desperate.” A second study done by the same authors employed an experimental design and compared the self-reported perceptions of online dating websites of those who viewed the sites during the experiment (exposure group) and those who did not (Donn & Sherman, 2002). Participants who had not viewed the dating sites rated them significantly more negatively than the exposure group. However the exposure group reported that their likelihood of using an online dating website did not change as a result of viewing the site. Both groups indicated they were very concerned about the truthfulness of online profiles as well as not being able to judge physical attractiveness or see facial expressions. Additionally, neither group endorsed statements describing the advantages of online dating.

Although there is little recent research on the stigma of online relationships, the aforementioned studies suggest that stigma against online relationships does exist. Therefore, a more in-depth exploration of stigma may be helpful in understating how it affects individuals, and more specifically, online daters. Corrigan (2004) proposes that stigma can be separated into self-stigma and public stigma, both of which can affect a member of a stigmatized group. Although his research involves stigma towards mental illness and other health issues, parallels can be drawn between the experiences of these groups and other stigmatized groups. Corrigan suggests that public stigma may consist of stereotyping, prejudice, and discrimination from the general public that is uninformed about a certain group. For example, results from the National Comorbidity Survey (Kessler et al., 2001) indicate that individuals are less likely to seek mental health treatment when they are concerned about what others may think. Further, experiencing public stigma of mental illness

may contribute to an individual's experience of self-stigma, resulting in low self-esteem (Link, 1987; Wright, Gonfrein, & Owens, 2000). Research on avoiding mental health treatment indicates that individuals who experience family shame or a personal sense of shame related to their mental illness were less likely to be involved in treatment (Sirey et al., 2001). While this research is not specifically related to online dating, Link and Phelan (2001) propose that stigma has wide-reaching implications related to many types of life circumstances (in the case of this investigation, online dating), and call for future research to address these implications.

Shame has been associated with stigma (Gilbert, 1992, 2002). As it applies to life in general, some people experience more shameful situations than others simply according to cultural norms (Leeming & Boyle, 2004). However, being shamed by others does not necessarily lead to internal experiences of shame (Gilbert, 1998; Lewis, 1998; Tantam, 1998). Nevertheless, the knowledge that others are judging an individual can lead to shame (Crozier, 1998). Gilbert (2000) proposes that shame is related to social rank, in that shame is related to submissive behavior, and submissive behavior is related to low social status. That is, a measure of submissive behavior (i.e., The Submissive Behavior Scale; Allan & Gilbert, 1997) that includes such items as "I agree that I am wrong even when I know I'm not" and "I don't like people to look straight at me when they are talking" was significantly correlated to measures of shame (e.g., Test of Self-Conscious Affect [TOSCA], Tangney, Wagner, & Gramzow, 1989; Personal Feelings Questionnaire 2 [PFQ-2], Harder, Culter & Rockhart, 1992) in both a student group and even more so in a group of depressed patients (Gilbert, 2000). Although there has not been much investigation into the relationship between shame and shyness, the available literature suggests shame and shyness may share such traits as

self-consciousness, feelings of low self-worth (Henderson, 2002; Kalliopuska, 2008), and Neuroticism (Ebeling-Witte et al., 2007; Einstein & Lanning, 1998). It may be that shy individuals who are more prone to shame may also be more susceptible to stigma, as they may already be struggling with relationships (Arroyo & Harwood, 2011; Cheek & Buss, 1981; Jackson, Fritch, Nagasaka, & Gunderson, 2002; Jackson, Towson, & Narduzzi, 1997; Nelson, Padilla-Walker, Bader, Barry, Carroll, & Madsen, 2008; Zhao, Kong, and Wang, 2013), putting them at an increased risk for low social status. Further risk factors associated with shyness, such as problematic Internet use (Chak & Leung, 2004; Ebeling-Witte et al., 2007; Yuen & Lavin, 2004) would likely facilitate shame and stigma, as problematic Internet use is outside the standards and norms of our culture, making it a potentially shame-inducing experience (Lewis, 2003). Further investigation of this phenomenon is certainly warranted.

This review of the literature suggests that factors related to Internet use, particularly shyness and predictors of problematic Internet use, may be changing over time. The increasing popularity of the Internet, and social media sites in particular, may have lessened the impact of personality characteristics related to Internet use. Further investigation into shyness and its components as they relate to online relationships involvement, and particularly online dating, is needed to clarify the nature of the relationship.

Factors Related to Internet Use

The Pew Research Center has undertaken a project, with data collection beginning in 2000, to study the “impact of the internet on families, communities, work and home, daily life, education, health care, and civic and political life” (“Project History,” n.d.). The project samples Americans using random-digit dialing of landlines and cell phones. Although the data is primarily used for scholarly research (for example, Horrigan, 2006; Sautter, Tippett,

& Morgan, 2010), the most recent raw data is also released in reports on the Pew Internet & American Life website. Data collected from 2010 to 2012 indicates that 81 percent of adults over the age of 18 use the Internet (“Who’s Online,” 2012). More specifically, 80 percent of men and 82 percent of women use the Internet. A significantly larger percentage of white individuals (84 percent) compared to black (73 percent) and Hispanic (74 percent) are Internet users. Significantly more young adults (i.e., 18-29 year-olds) use the Internet than older age groups. Additionally, significantly more college graduates and individuals with household incomes above \$75,000 are Internet users than individual with less education and lower incomes. Internet use has grown dramatically since the Pew Research Center began gathering data in 1995 (“Internet Adoption,” 2012). In June of 1995, 14 percent of American adults used the Internet, compared to 81 percent in September of 2012. Data gathered in February 2001 indicated that 53 percent of adults were Internet users. This number had grown to 72 percent by September 2005.

Teens have a different pattern of Internet use than adults (“Teen Internet User Demographics,” 2012). Ninety five percent of all teens (ages 12-17) are Internet users, boys significantly more so than girls (97 percent and 93 percent, respectively). Interestingly, rural teens are significantly more likely than urban teens to be Internet users. Eighty percent of all teen Internet users use social media sites such as Facebook and 37 percent had used video chatting applications such as Skype.

Patterns of adult Internet usage are also investigated by the Pew Internet & American Life study. Ninety one percent of adult internet users use a search engine to find information (the most popular activity), compared to 67 percent who use social media sites such as Facebook, 57 percent who use online classified ad sites like Craigslist, and eight percent who

use an online dating website (“What Internet Users Do Online,” 2012). In terms of social media sites specifically, women were more likely than men to use the sites and young adults were significantly more likely than all other age groups to use the sites (Duggan & Brenner, 2013). For Facebook specifically, 67 percent of adult Internet users use Facebook. Internet users with some college education, as opposed to no college or more education than college alone, are more likely to use Facebook. Women have been more likely than men to use Facebook since 2009, and social media site use has jumped from eight percent in 2005 to 67 percent in 2012 (Brenner, 2013).

A recent study found that adults who use social media, including instant messaging and social media sites, did not have larger offline networks of friends and family (Pollet, Roberts, & Dunbar, 2011). The more time an individual spent on social media sites, the more online connections and interactions he or she had. However, this did not appear to contribute to closeness in any relationships. Additionally, there was no difference in network size or emotional closeness with offline relationships between those who use social media and those who did not. These results indicate that while social media does not enhance the quality of relationships online or offline, it does not appear to markedly damage them either.

Briefly, different types of Internet users appear to have different accompanying issues with quality of life and social interactions (Mitchell, Lebow, Uribe, Grahouse, & Shoger, 2011). In terms of negative consequences, individuals who spent large amounts of time engaging in gaming or mischief (e.g., hacking, illegal downloading, snooping, etc.) viewed themselves as having less social support when compared to participants not engaging in these behaviors. Individuals who used the Internet for entertainment purposes (e.g., online games, viewing pornography, music, etc.) were more introverted than individuals who used the

Internet for other things (e.g., shopping, information seeking, work/school related tasks, etc.). Individuals involved in online mischief reported lower levels of happiness, and were also more likely to engage in cybersex, purchasing, and chatting. These results indicate that it can be difficult to describe Internet users as a whole, and that associated negative outcomes of Internet use are best described when more specifications, such as a certain subset of Internet users, are applied to an investigation. Additionally, problematic Internet use has been correlated with loneliness and dating anxiety in undergraduates. The authors suggest that the physiological aspects of dating anxiety (e.g., sweating in proximity to the opposite sex, blushing) may encourage undergraduates to turn to the Internet to remove these cues, putting them at risk for excessive Internet use. Undergraduates who had developed online dating relationships were more likely to engage in problematic Internet use, which may tie in with the findings about social anxiety. Finally, male students were more likely to exhibit problematic Internet use than female students.

Online Dating

According to Sautter, Tippett, and Morgan (2010) online dating is defined as the use of websites that provide a database of potential partners that one can browse and contact. Online dating websites are growing in popularity, and a recent Pew Internet and American Life Project survey indicated about 11 percent of all adult American Internet users (approximately 16 million people) report they have visited online dating websites or similar sites where they can meet people online (Madden & Lenhart, 2006). Seven percent of adult Internet users (10 million people) report they are currently looking for a romantic partner and 74 percent of these individuals report using the Internet in at least one way to facilitate romance. In investigating this group's use of the Internet in relation to dating, 37 percent had

gone to an online dating site, second only to using the internet to flirt with someone. Forty three percent of online daters (almost seven million people) have been on dates with individuals they met through online dating websites. Seventeen percent, or almost three million people, have engaged in long-term relationships or married someone they met through an online dating website. This corresponds to three percent of total adult Internet users. The majority (52 percent) of adults who have been to online dating websites report mostly good experiences, while 29 percent report mostly bad experiences. Equal percentages of the general public (44 percent) agree and disagree that online dating is a good way to meet people. A majority of online daters (64 percent) indicated that online dating websites allow access to a larger pool of potential partners, therefore facilitating better matches. Thirty one percent of online daters disagree with this idea. Forty seven percent of the general public believes that online dating facilitates better matches, whereas 38 percent disagrees.

Past research has been unable to distinguish between social, economic, and demographic predictors for use of online dating websites (Sautter et al., 2010; Valkenburg & Peter, 2007). Sautter and colleagues (2010) further examined the data from the Pew Internet & American Life Project online dating survey. When the entire sample was analyzed, factors such as socioeconomic status and race were the best predictors of online dating, but were not statistically significant once Internet access and single status were controlled for. This indicates that sociodemographic variables may be better predictors of Internet use in general. It should also be noted that when the population of Internet users was examined, factors such as race, education, and income were associated with an individual's likelihood of being single. Therefore, it appears that individuals who use online dating sites are already somewhat of a self-selected group. More personal variables such as computer literacy, social

networks that include friends and family who have used online dating websites, and positive attitudes about online dating strongly predicted an Internet using single's use of online dating websites. From the opposite view, stigma towards online dating (i.e., negative attitudes about online dating) was associated with a decreased likelihood of online dating (Sautter et al., 2010).

Research on online dating is a relatively new field, and the existing research generally has yet to be replicated or updated. For example, Sautter and colleagues' (2010) study utilizes the same data as Madden and Lenhart (2006), which has not been updated since 2006. As Internet use increases, it is likely that use of online dating websites will as well. Studies completed by the research firm Chadwick Martin Bailey for Match.com in 2009 and 2010 indicate that 21% of single participants surveyed and 26% of participants who recently entered relationships (including marriage) have dated someone they met through an online dating website in the past two years ("Recent Trends: Online Dating," n.d.). While this is not a scholarly source, it does appear to indicate an increase in relationships that began through online dating websites, as opposed to 17 percent of online daters in 2006 who reported engaging in long-term relationships or marriage with someone they met online (Madden & Lenhart, 2006). As technology continues to increase the pool of potential partners available to an individual, will partner preferences differ from more traditional methods of partner selection? As previously mentioned, relatively little research has been done on online dating, including partner preference in relation to sexual selection theories.

Evolutionary Theory. From an evolutionary perspective, online daters appear to be looking for some of the same characteristics in partners as traditional daters (Alterovitz & Mendelsohn, 2009; Gallant, Williams, Fischer, & Cox, 2011; Gustavsson, Johnsson, & Uller,

2008). For example, a cross-cultural study of mate selection preferences indicated that most cultures participating in the study rated dependability, emotional stability, kindness and understanding, and intelligence as important mate characteristics (Buss et al., 1990). Of the 37 cultures surveyed, nearly all indicated that women valued earning potential (resources) significantly more than men, while men valued physical appearance significantly more than women. Darwin's theories of natural selection (1859) and more specifically, sexual selection (1871) indicate that these preferences are advantageous and ensure reproductive success. The gender difference in preference evolved as individuals possessing these traits were chosen more often as mates, thereby propagating their genes and reproducing these traits in future generations. Additionally, healthy individuals with access to resources are more likely to survive based on natural selection, and survive to an age where they are able to reproduce. Women show a preference for mates with resources in order to provide for offspring, increasing their chances for survival (Buss, 2003). Men show a preference for attractiveness, as female youth and beauty are indicators of health and good reproductive capacity. This increases their likelihood of producing offspring and propagating their genes (Buss, 2003).

A study of Swedish personal advertisements found that consistent with sexual selection theories, women described a preference for resources (e.g., financial stability, intelligence, large home, professional) more often than men, and men offered resources more often than women (Gustavsson et al., 2008). However, men did not differ from women in the proportion describing a preference for attractiveness. The study also found that age preference changed across age groups. That is, younger men and younger women had a preference for each other and men of all ages preferred younger women. Women in the 40-79 year-old age group also preferred younger men. The authors described this anomaly as

occurring because individuals often use personal ads to make social as well as romantic connections. Also, men's declining health with age may lead older women to seek younger partners (Gustavsson et al., 2008).

Alterovitz and Mendelsohn (2009) also investigated partner preference in older adults, specifically those who had placed online personal advertisements. This study found many of the same results as Gustavsson and colleagues, in that men sought physical attractiveness and offered more status-related information than did women. Also, as they aged, men preferred female partners who were increasingly younger. Again, similar to Gustavsson and colleagues (2008), predictions based on evolutionary theory did not always hold true for older women. Although women across all ages sought status-related information more often than did men, they did not provide more information about physical attractiveness than men. Contrary to Gustavsson and colleagues, only women over 75 sought men who were younger than themselves (Alterovitz & Mendelsohn, 2009).

A study by Gallant and colleagues (2011) examined how men and women advertise themselves through their online dating profile picture. They found that many of the strategies used, especially by women, could be explained by sexual selection theory. Women wore minimal clothing in their photographs, exposing skin, more often than men. A possible explanation for this is to show off their healthy skin and therefore their overall health. Women less frequently appeared in photos with grey hair, which may indicate an attempt to appear youthful. Women were also more likely to have photographs in indoor, domestic locations. Taken together, these results indicate that women are aware of men's preferences for potential partners. Along a similar vein, men were seen to emphasize their height, flex their muscles, and be photographed in outdoor locations more often than women, traits that

women emphasize more in short term partners than long term partners. However, the authors acknowledge that it was much more difficult to consistently code indications of wealth and resources in men's photographs, therefore they were unable to properly examine a variable that is very important to women's selection of long-term partners.

A recent study (Goetz, 2013) examined undergraduate women's mate preferences through video profiles for a hypothetical university online dating website. Participants were encouraged to describe topics such as their favorite books or movies, how they like to spend their free time, values and world view, and what they want in a relationships partner. Videos ranged in length from 36 to 75 seconds. Based on Buss and Shackelford's (2008) work, videos were coded for the following four categories of mate preferences: 1) good gene indicators (e.g., attractiveness, intelligence), 2) good resource acquisition potential indicators (e.g., ambition, earning potential, education), 3) good parenting indicators (e.g., kind, understanding, maturity, fondness of children), and 4) good partner indicators (e.g., loving, loyal, committed). Short-term mating preference was significantly negatively correlated with any of the four aforementioned preferences, while long-term mate preference was significantly positively correlated with good partner indicators (e.g., loving, loyal, committed). The author suggests that the age of sample (undergraduates) may explain why all of the four categories of mate preference were not related to stated interest in a long-term relationship. However, these results indicate that undergraduate women interested in long-term relationships advertise some of the same mate preferences as traditional daters in online video profiles.

Psychological Characteristics. Although traditional sexually-selected characteristics important in mate selection such as attractiveness and resources appear to be important to

online daters, previous research on personal ads indicates that personality characteristics, such as warmth, honesty, a sense of humor, etc. may be becoming more important than physical characteristics or resources (Lance, 1998). A nonsmoking partner has also been found often in the top five characteristics that males and females seek in potential partners (Lance).

Certain psychological characteristics, such as self-esteem, importance of romantic relationships, and anxiety about dating moderate the use of online dating services (Valkenburg & Peter, 2007; Kim, Kwon, & Lee, 2009; Picheny Goldberg, 2010). Kim and colleagues (2009) examined a large survey sample from the DDB Needham Life Style surveys. The study found that for individuals (both men and women) who rated themselves as sociable, using online dating services were more common for individuals with high self-esteem when relationships were important, but were more common for individuals with low self-esteem when relationships were less important. That is, highly sociable individuals who value relationships may be more comfortable with displaying themselves on online dating sites when they have high self-esteem. Further, for highly sociable people to whom relationships are less important, they may consider it less difficult to frequent online dating sites than to actively seek potential partners in person. Overall, it appears that individuals who are more engaged in social activity are more likely to use online dating sites (Kim, et al., 2009). According to Valkenburg and Peter (2007) Internet users low in dating anxiety were more likely to use online dating sites than those who rated themselves as high in dating anxiety. While these findings seem to be common sense, they lend support to the theory that individuals who would traditionally be thought of as more comfortable with face-to-face dating are also more comfortable with meeting potential partners online. Further, Stevens and

Morris (2007) examined the relationship between dating and social anxiety, and the use of the Internet to form relationships. Participants who reported high levels of social and dating anxiety were more likely to endorse using webcams as a means of maintaining relationships. However, no differences were found between high and low anxiety groups and Internet use (Stevens & Morris, 2007). Therefore, individuals with high dating and social anxiety may prefer to interact in a situation that offers them some removal from the other person.

Online Dating and Stigma. As online dating grows in popularity, an increasing number of relationships will begin through online dating sites. Regardless of its increasing popularity, a stigma towards online dating exists (Sautter et al., 2010; Doan, 2011), to the point where online daters are rated as less attractive than traditional daters (Doan, 2011). Individuals who use online dating sites may therefore be less than forthcoming about their use of online dating sites. It is conceivable that they may even go to certain lengths to keep others from finding out about their use of online dating sites, even if they are involved in a relationship with someone they met online. According to a report from the Pew Internet and American Life Project, 66 percent of Internet users agree with the statement that online dating is a dangerous activity, as personal information is displayed on the Internet (Madden & Lenhart, 2006). However, 52 percent of online daters do not see the activity as dangerous. Additionally, 52 percent of online daters believe that people lie about their marital status on online dating websites, compared to 57 percent of Internet users in general. Twenty nine percent of Internet users believe that online daters are “desperate” to find a partner. These individuals have less experience online and report that they are less trusting of others in general. Interestingly, although men are more likely than women to view online dating

websites as a good way to meet people, they are also more likely to consider online daters “desperate.”

Even as online dating increases in popularity and becomes more of a social norm, it will be helpful to understand if and why some individuals are more susceptible to and affected by the stigma associated with online dating. There has been relatively little investigation into psychological characteristics of online daters, but research has shown that variables associated with Internet use in general are the best overall predictors of online dating (Sautter et al., 2010). Shyness has been implicated in some aspects of Internet use, such as preference for and motives related to using computer-mediated communication, and it has been suggested that a reduced-cues environment is responsible for these findings. A more thorough discussion of shyness is warranted to fully appreciate the implications of these results. In addition, a further discussion of stigma, specifically with regards to shame and shame proneness, will help elucidate why some individuals may be more at risk for stigma against online daters.

Shyness: An Overview

Shyness has been the subject of many empirical investigations outside of its relation to Internet use. Reasonably, the interaction between shyness and relationships has been investigated from many angles. Deficits in interpersonal skills have been proposed as a model for why shy individuals struggle in relationships. Shy individuals have been shown to spend less time talking and more time fidgeting (i.e., touching own body or face with hands) when interacting with strangers (Cheek & Buss, 1981). Interpersonal deficits and expectations of rejection have been found to be significant predictors of both self-reported shyness and shyness as measured by the Shyness Scale (Cheek & Buss, 1981; Jackson et al.,

1997). Interpersonal deficits were measured by the Interpersonal Competence Questionnaire (ICQ; Buhrmeister, Furman, Wittenberg, & Ries, 1988), which assesses domains such as initiating relationships, self-disclosure, negative assertion, providing emotional support, and managing interpersonal conflict.

Compared to non-shy peers, shy undergraduates perceived lower quality relationships with friends, romantic partners, and parents (Nelson et al., 2008). Shyness, as measured by a revised version of the extroversion scale of The Adult Temperament Scale (Rothbart, Ahadi, & Evans, 2000), also appeared to be a barrier in forming high quality relationships with both peers and romantic partners. Shy individuals were more likely to “settle” for low-quality romantic relationships rather than begin the process of dating again. Low self-worth may also be associated with this process, as shy individual were seen to endorse items such as “nobody better would want me.” A study by Arroyo and Harwood (2011) further attempted to explain the difficulties in relationships experienced by shy individuals. Participants were undergraduates and a friend of their choosing. Individuals reported lower levels of satisfaction and commitment to friendships when communication competencies were perceived to be low. Also, communication competencies were seen to influence partners’ perceptions of satisfaction and commitment to the relationship more than the shy individuals’. This competencies finding indicates that shy individuals may not perceive their shyness as much of a barrier to established relationships as their friends do. However, they may perceive themselves as having difficulty in forming new relationships (Arroyo & Harwood, 2011).

Zhao, Kong, and Wang (2013) examined the relationship between shyness as measured by the CBSS (Cheek & Buss, 1981) and loneliness in Chinese university students.

The best model from this study indicated that shyness and loneliness were partially mediated by social support. That is, shy individuals received and perceived less social support than their peers, which then increased their loneliness. The best model also suggested self-esteem as a mediator between shyness and loneliness in that shy individuals have lower self-evaluation and lack confidence in social behaviors. Shy individuals may avoid social situations, which then increases loneliness. This agrees with previous work by these authors (Zhao et al., 2012). Further, social support mediates the relationship between shyness and self-esteem while self-esteem partially mediates the relationship between social support and loneliness. This study represents the first of its kind to address the relationship between all four variables. However, the authors caution that the results should only be generalized to Chinese college students, although they generally agree with previous research on American college students (Jackson et al., 2002).

Development of Shyness. There are several theories of how shyness develops. Shyness has been investigated as an inherited trait associated with infant temperament (Daniels & Plomin, 1985; Emde, Plomin, Robinson, Corley, DeFries, Fulker, Reznick et al., 1992). Environment is seen to play somewhat of a role in shyness, however mothers who self-reported shyness, low sociability, and introversion also reported their infants as shy (Daniels & Plomin, 1985). It is likely that mothers who do not expose themselves to novel social situations likely do not expose their infants to such situations either. However, a relationship was also found between biological mothers' reports of shyness and their adopted away infants' shyness reported by their adoptive parents. This finding indicates shyness is inherited to some degree (Daniels & Plomin, 1985). A longitudinal study also indicated that behavioral inhibition and observable shyness have a heritable component (Emde et al, 1992).

Behavioral inhibition at age three was seen to predict shyness at age seven, as defined by childhood measures of shyness (Volbrecht & Goldsmith, 2010). Behavioral inhibition is defined as wariness with regards to novel people, objects, or situations (Kagan, Snidman, Kahn, & Towsley, 2007) and is a more broad term that encompasses social and non-social situations, whereas shyness applies to social situations (Volbrecht & Goldsmith, 2010).

The study also investigated the relationship between family stress, shyness, and anxiety. Family stress and early negativity in the family, as defined by questionnaires, predicted higher anxiety in children at age seven, but lower childhood shyness. The authors hypothesized that children from high stress families are forced to develop assertiveness and are less shy as a result. These findings highlight the difference between shyness and anxiety and indicate that they have different etiological roots. This study suggests that it is anxiety, rather than shyness that develops from pathological family environments (Volbrecht & Goldsmith, 2010).

Another study investigated the development of shyness from childhood to emerging adulthood (Hutteman, Denissen, Asendorpf, & Van Aken, 2009). Participants were part of a larger German longitudinal study on development in general. The study sought to clarify the relationship between internalizing behavior (e.g., shyness, depression) and externalizing behavior (e.g., aggressiveness, delinquency) from early childhood to emerging adulthood by testing two competing theories of the development of internalizing and externalizing problems. The “acting out” theory states that internalized feelings are acted out through behavioral problems (Carlson & Cantwell, 1980). In contrast, the “failure” theory states that externalizing problems result in rejection and lack of support from peers and parents, which in turn increases the child’s risk for developing internalizing problems (Capaldi, 1991, 1992).

Hutteman and colleagues (2009) found that children who were rated as shy by their parents at age six were found to become less aggressive at age seven and again from ages eight to ten. However, children rated as shy at age six were seen to become increasingly aggressive from ages 17 to 25. After investigation, they concluded that shy adolescents only became more aggressive when they experienced low levels of parental support (as measured by a questionnaire) and spent little time in part-time work. These results further indicate that while shyness may put an individual at risk for future negative consequences, there is not necessarily a direct relationship between the two. In the case of this study, adolescents who had support from parents and opportunities to practice social skills, such as at part-time jobs, did not have negative outcomes in terms of shyness. This study also highlights that there does not appear to be a single path of development in terms of internalizing and externalizing problems from early childhood to emerging adolescence.

A separate theory of shyness suggests that individuals with sensory-processing sensitivity (i.e., sensitivity to subtle stimuli, easy overstimulation, proneness to “pause to check” in novel situations, and preference to reflect and revise cognitive maps after experience) process information from the environment more thoroughly than other individuals, including social and emotional experiences (Aron & Aron, 1997). The authors note this characteristic may be conceptualized as the psychological piece of behavioral inhibition, described above. A later study further investigated the relationship between shyness (as measured by the RCBS; Cheek, 1983), sensory processing sensitivity, and adverse childhood environment (Aron, Aron, & Davies, 2005). Adverse childhood environment was measured by questions such as “Was mental illness a problem in your immediate family while growing up?” and “Was alcoholism a problem in your immediate

family while growing up?” Undergraduates who reported high levels of sensory processing sensitivity were more likely to be shy when confronted with an adverse childhood environment. Otherwise, highly sensitive individuals did not report a higher incidence of shyness than individuals who were not highly sensitive. These results indicate that shyness may show a nature and nurture interaction.

Many different theories have been posited about the development of shyness. Of those presented here, all seem to have received some empirical support. Regardless of the semantics, it appears as though there is a heritable component of shyness, as well as an environmental component (Daniels & Plomin, 1985; Emde et al., 1992).

Shyness and Psychiatric Correlates. As previously mentioned, shyness may put individuals at risk for a variety of negative outcomes (Chak & Leung, 2004; Ebeling-Witte et al., 2007; Yuen & Lavin, 2004) including comorbid psychiatric conditions (Cox, MacPherson, & Enns, 2005). Although modern psychiatry has moved towards pathologizing shyness (Aho, 2010), 26 percent of women and 19 percent of men reported that they were excessively shy while growing up (Cox et al., 2005). This indicates that shyness in childhood is a relatively common experience. However, diagnostic changes in the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 1980, 1994, 2000) have increased shyness-associated disorders such as social phobia from affecting about three percent of the population to 13 percent. Aho (2010) suggests that the diagnostic changes make it difficult to distinguish between shyness and medical disorders such as social phobia. He also suggests that standards of normalcy have shifted over time, to the point that lack of engagement in social areas of life is increasingly seen as pathological.

Although childhood shyness appears to be a somewhat common occurrence, results of the National Comorbidity Survey indicated that 53 percent of women and 40 percent of men who reported they were excessively shy in childhood met criteria for a diagnosis of anxiety or mood disorder at some point in their lives (Cox et al, 2005). Childhood shyness was most strongly associated with a lifetime diagnosis of social phobia for men and women. However, individuals reporting social phobia did not always report excessive shyness in childhood. This indicates again that childhood shyness may be a risk factor for future negative outcomes, but has not been found to be the cause of these outcomes. Additionally, excessive childhood shyness was associated with major depressive disorder in men and posttraumatic stress disorder in women. The most recent National Comorbidity Survey Replication indicated a lifetime prevalence of social phobia of 12.1% (Kessler et al., 2005).

Previous research has shown the prevalence of social phobia to be significantly higher in undergraduates who self-reported being shy. Most shy undergraduates (82 percent) did not meet criteria for social phobia, and three percent of non-shy undergraduates did (Heiser, Turner, & Beidel, 2003). Shy participants with social phobia and shy participants without social phobia show similar shyness scores on the RCBS (Cheek, 1983). Furthermore, 15 percent of individuals with social phobia were not identified as shy. Therefore, although the two are likely related, the authors did not believe there was enough evidence to conclude that severe shyness can be conceptualized as social phobia. With regards to other diagnoses, shy individuals were more likely to meet criteria for an Axis I or II diagnosis than the non-shy individuals. Specifically, shy individuals were more likely to meet criteria for a mood disorder or other anxiety disorder aside from social phobia when compared to the non-shy participants. Thirty five percent of the shy participants met criteria for avoidant personality

disorder, compared to 10 percent of the non-shy participants, indicating that shy individuals were significantly more likely to meet criteria for this disorder. In general, it appears that shyness is a risk factor for psychopathology, although it remains unclear exactly why or how.

Although shyness has been related to negative outcomes such as problematic Internet use and mood and anxiety disorders, it appears as though it is more of a risk factor as opposed to a direct causal factor. There appears to be a dearth of research investigating shyness and stigma, let alone any research investigating shyness and stigma against online dating. In order to better understand this phenomenon, it will be helpful to further investigate factors related to stigma, such as shame and shame proneness to determine if and how they relate to shyness and online relationships.

Shame: An Overview

Shame results from a failure due to inadequacy and is accompanied by a negative self-evaluation (Einstein & Lanning, 1998, Leeming & Boyle, 2004; Tangney, 1996). Shame is considered a social, or self-conscious emotion (Gilbert, 2003; Lewis, 2003) with evolutionary roots in detecting and coping with social threats (Gilbert & Maguire, 1998), as well as the need to be acceptable and desirable to others (Gilbert, 2003). Shame requires the ability to be self-consciously aware, reflect on behavior, and judge things as good or bad (Gilbert, 2003; Lewis, 2003). Similar to stigma, shame can be experienced externally through exclusion and negative social comparisons or internally by feeling devalued and undesired (Gilbert, 2003). The aversive quality to experiencing shame assures conformity to rules and standards of an individual's culture (Lewis, 2003). However, it is important to note that whether cultures are individualistic or collectivistic, people seek to be valued, respected, and approved of (Sedikides, Gaertner, & Toguchi, 2003). Gilbert suggests that when an

individual is not valued, respected, and approved of, shame and stigma develop (1998, 2002). It has been suggested that shame and stigma relate to failure to fulfill evolutionarily important roles (Greenwald & Harder, 1998). The roles include sexual attractiveness (e.g., sexual deviance, exploitation, unattractiveness), prosocial behavior (e.g., failures to meet obligations), conformity (e.g., breaking social rules, fashions, or traditions), and resource competition (e.g., failure to compete competently for resources, being seen to lack abilities to do so).

A study by Gilbert, Pehl, and Allan (1994) confirmed that shame includes characteristics such as feelings of helplessness, anger at oneself, inferiority, and self-consciousness. In particular the authors stressed that self-focused attention is associated with shame. Lewis (2003) further states that shame is overpowering and may include intense emotional pain, discomfort and anger. The individual may also experience feelings that he or she is not good, inadequate, and unworthy. Strategies for managing shame in the moment include withdrawal, hostility, and anger (Tangney, 2002). Long-term strategies include appeasement (Keltner & Harker, 1998), conformity (Harré, 1986) and maintenance of attachments (Lewis, 1987).

Development of Shame. The precursors of shame develop over the first three years of life (Lewis, 2003). Primary emotions, then cognitive capacity develop first. As the child develops standards, rules, and goals, cognitive capacity for evaluative emotions, such as shame, develop (Lewis, 2003). The culture the child lives in determines the standards, rules and goals (Leeming & Boyle, 2004; Lewis, 2008). For example, engaging in self-blame and introspection was predictive of shame ratings in public and private situations for American students (Crystal, Parrot, Okazaki, & Wanatabi, 2001). That is, students who attributed

shameful situations to a moral or characterological flaw in themselves were seen to be more shame-prone, even though shame ratings related to characterological defects of the internal self decreased from late adolescence to early adulthood for the overall sample. The authors suggest that this decrease in shame is likely related to the importance of self-esteem and confidence in Western society. Japanese students, on the other hand, had a somewhat less clear pattern of development, indicating that shame proneness may be more related to specific cultural situations rather than individual differences in personality (Crystal et al., 2001). However, there is also evidence to suggest individual difference in the experience of shame, particularly in the development of shame-proneness. This will be addressed in a later section.

There is some evidence to suggest gender differences in the development of shame. For example, girls are more likely to blame themselves for academic failures, where as boys are more likely to attribute academic failures to others (Dweck & Leggett, 1988). Additionally, Lewis and colleagues (Lewis, Alessandri, & Sullivan, 1992) investigated shame and pride responses in three-year-old children based on body language and facial expression. The children were more likely to respond with shame when they failed at an easy task than a difficult one. The opposite was true for pride in that pride was more likely when succeeding at a difficult task as opposed to an easy task. Although girls and boys did not differ in task performance or expression of pride, girls showed significantly more shame than boys, particularly when they failed at an easy task. These results were replicated in later research as well (Alessandri & Lewis, 1996). Additionally, girls received less positive feedback from their mothers than did boys (Lewis et al, 1992). Women have been shown to report a higher propensity for shame and guilt than men (Benetti-McQuoid & Bursick 2005;

Pulakos, 1996; Tangney, 1990). Further, individuals (not just women) with feminine gender roles reported more shame proneness than those with other gender role classifications (Benetti-McQuoid & Bursik, 2005). Individuals with feminine gender roles also relied on verbal responses (e.g., apologies, offering explanations), as opposed to action-oriented responses (e.g., work harder, study more), to alleviate shame feelings. Stated a different way, increased masculinity for women was associated with lower shame-proneness. These findings again seem to indicate that shame and shame-proneness are a product of the culture the individual is living in and are more associated with traditionally feminine gender roles.

Shame-Proneness. Regarding the current literature on shame, it is dispositional shame, or shame-proneness, that has received the majority of the attention, as opposed to shame that occurs in specific situations (Leeming & Boyle, 2004). Dispositional shame has been defined as a higher propensity to feel shame in commonly shame-eliciting situations (Andrews, 1998). Individuals who are particularly shame-prone may frequently and/or continuously experience generalized or global shame. They may also be particularly ashamed of a certain behavior or characteristic. Einstein and Lanning (1998) suggest that shame is related to feelings of inadequacy and concern over social disapproval. Their study also suggests that shame differs at different levels of ego development. For example, they suggest that an individual needs to be at a certain level of ego development to even be able to experience shame. The study determined that shame is the highest at the Self-Aware stage of ego development, in which an individual would be able to be aware of personal inadequacies and be able to reflect on them to a degree that is characteristic of this stage of ego development. The study also reported that shame was related positively to Neuroticism and

Agreeableness, and negatively to Openness, as defined by the Five-Factor Model of Personality (Costa & McCrae, 1992).

A series of studies by Tangney and colleagues (Tangney, Wagner, Fletcher, & Gramzow, 1992) indicated a relationship between shame-proneness and psychopathology. The authors describe shame as an affective state that focuses on the whole self and stems from internal, global, and stable attributions. Shame-proneness was related to viewing the world in a negative way, as well as depression. Shame-proneness was also related to feelings of hopelessness. Additionally, shame-prone individuals who experience and perceive themselves as suffering from psychological symptoms may be at increased risk for experiencing more shame.

Environmental factors can also influence shame-proneness. Maltreated preschool girls showed significantly more shame than non-maltreated girls and maltreated and non-maltreated boys (Alessandri & Lewis, 1996). Maltreated girls also showed significantly less pride than other groups, and even showed shame in achievement situations. Maltreating mothers were more negative towards their daughters in both comments and affective displays than toward their sons (Alessandri & Lewis, 1996). Undergraduates who experienced more shame, as measured by the Test of Self Conscious Affect (TOSCA; Tangney, Wagner, & Gramzow, 1989), reported less cohesiveness and expressiveness in their family of origin, and more conflict. That is, they reported less commitment and support from family members, as well as less encouragement to express their feelings directly. These results indicate that family environment can have an impact on how an individual experiences shame, especially women.

Clinical Implications of Shame. From a clinical perspective, shame is an issue for many who seek therapy (Gilbert, 1998; Harder, 1995; Tantam, 1998). Shame has been correlated with a number of psychological difficulties both children and adults (Gilbert & Gerlsma, 1999). A study by Gilbert (2000) indicated that shame, as well as social anxiety and depression, are related to feeling inferior and showing submissive behavior. According to social rank theory (Price & Sloman, 1987), an outcome of perceived low social status is submissive behavior. Shame was related to social rank, which also suggests shame is linked to submissive behavior (Gilbert, 2000). In another study, a community sample was compared to a non-psychotic patient sample (Gilbert & Gerlsma, 1999). The patient sample recalled more shame, favoring of siblings, control, and less warmth in the family environment than did the community sample. A hostile parenting style was also related to reports of being shamed. Parenting style was assessed by two self-report measures of recalled parenting styles: the Egnä Minnen Beträffande Uppfostran (EMBU; Perris, Jacobsson, Lundstrom & von Knorring, 1980) and the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979).

Relationship Between Shyness and Shame

There has been very little investigation into the relationship between shame and shyness. Although shyness can be conceptualized as low social self-confidence (Crozier, 2005), an investigation of the different aspects of shyness (Henderson, 2000) found that fearfulness and private self-consciousness specifically were predictors of self-blame and shame in hypothetical interpersonal failure situations for shy individuals. Therefore, more subtle aspects of shyness may need to be investigated in order to determine the nature of the relationship between shyness and shame. Although the study did not provide much evidence

for differentiating among different types of shyness, Henderson (2000) points out that shame may be an aspect of shyness for some individuals, which makes these two constructs difficult to differentiate. Additionally, specific facets of shyness, such as self-consciousness and low feelings of self-worth are shared between shyness and shame (Henderson, 2000; Kalliopuska, 2008).

Significance of the Study

Overall, this study seeks to determine the role of shyness and shame in attitudes toward online dating. Although research indicates that online daters are looking for many of the same things in potential partners as are traditional daters (Alterovitz & Mendelsohn, 2009; Gallant et al., 2011; Gustavsson et al., 2008), there has been no research on how online daters evaluate themselves as potential partners, given that they are seeking partners in a non-traditional manner. Previous research has determined that a stigma towards online dating exists (Anderson, 2005; Doan, 2011; Donn & Sherman, 2002; Madden & Lenhart, 2006; Sautter et al., 2010; Wildermuth, 2004) but there has been little investigation into what psychological characteristics influence these attitudes or how these attitudes affect online relationships. A simple way to measure whether online daters experience the stigma towards online dating is to measure if and how often they have lied about meeting a partner online. If they have lied, it may be suggestive of their own discomfort with online dating. Further investigation of shame and shyness in relation to online dating is warranted, given that shyness affects motivations for engaging in computer-mediated communication (McKenna et al., 2002; Roberts, Smith, & Pollock, 2000; Stritzke et al., 2004; Weidman et al., 2012), shame and shyness are related (Ebeling-Witte et al., 2007; Einstein & Lanning, 1998; Henderson, 2002; Kalliopuska, 2008), and shame is associated with stigma (Gilbert, 1992,

2002). From a clinical perspective, as online dating becomes increasingly popular, it will be helpful to know why some individuals can participate in online dating with no trouble, and others may feel compelled to hide the fact that they are online dating, and may even go so far as to lie about it. Specific facets of shyness, such as self-consciousness and low feelings of self-worth are shared between shyness and shame (Henderson, 2002; Kalliopuska, 2008), and are not often investigated as they relate to online relationships. Therefore, it may be worthwhile to investigate these characteristics separately as they relate to online dating, in order to clarify their respective roles.

For this investigation, participants will be recruited and surveyed through online methods. Advertisements and links to the surveys will be placed on online dating websites as well as social media sites such as Facebook. Participants will complete the self-report measures listed below through an online survey website.

This study will seek to elucidate the potential relationship between shame and shyness, which has received little empirical investigation in any context. This will be important not only to better understand shyness and shame, but may also help inform treatment of shy and shame-prone individuals. This study will also seek to determine how these factors influence or relate to stigma against online relationships. Online dating is an appropriate context in which to investigate these relationships, as a stigma has been shown to exist against relationships that begin online, although its popularity is growing.

Conceptual Model

It is predicted that individuals who are shy are at an increased risk for developing shame and perceived stigma (Figure 1). The research remains somewhat unclear, however shy individuals may be more likely to be involved in online dating than less shy individuals.

Although it is possible that shyness itself may lead directly to perceived stigma, it is more likely that shame is a mediator between shyness and perceived stigma. Perceived stigma will likely be related to lying about where a relationship originated, when relationships began online.

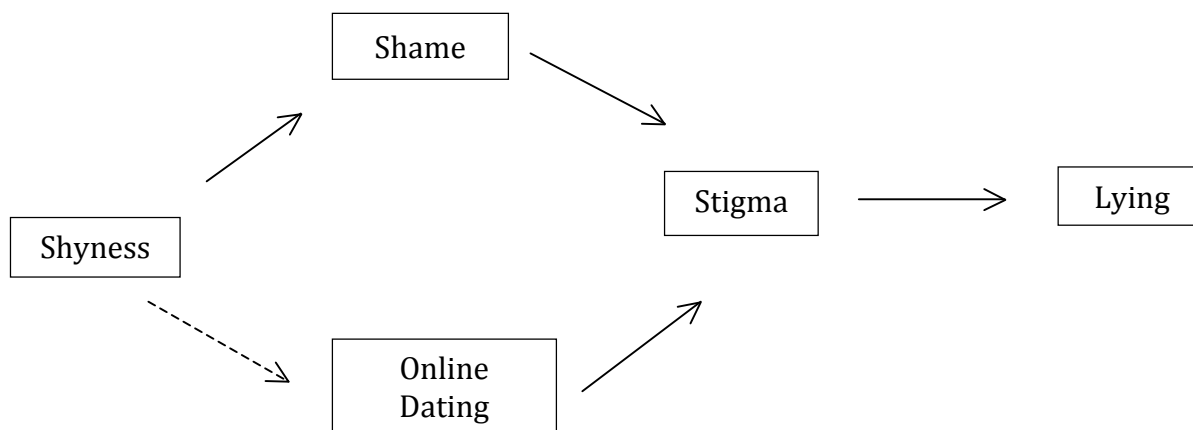


Figure 1. Conceptual model of shyness and shame as they relate to online dating and lying about where a relationship originated. Dotted arrows denote unclear relationships. Darker arrows denote stronger relationships.

Specifically, it is hypothesized that:

- H1) A measure of shyness will be significantly correlated with measures of shame.
- H2) Measures of shame will be related to measures of self- and public stigma.
- H3) Individuals who score higher on measures of self-and public stigma will be more likely to lie about the origin of a relationship.
- H4) Individuals who have participated in online dating as measured by ever having an online dating profile will be more likely to have lied about the origin of a relationship than those who have not.

- H5) a) It is expected that higher shyness scores (as measured by the RBCSS), higher shame scores (as measured by the TOSCA-3 and PFQ-2 Shame Scale), a history of online dating (as measured by having an online dating profile either currently or in the past), and stigma scores (as measured by the SSODS and PSSOD) will predict lying about the origin of a relationship.
- b) A model including shame as a predictor of lying about the origin of a relationship will be better than a model that does not include shame as a predictor.

Methods

This study addressed the role of shyness and shame in the stigma towards online dating and specifically, whether or not individuals lie about meeting a partner online. Participants completed informed consent (Appendix A) and measures through an online survey site. They were asked to complete several questions about online dating behaviors and attitudes and several psychological measures. Data was analyzed using SPSS statistical software.

Design

This study employed a correlational design to determine the relationship between shyness, shame, and stigma. All measures were self-report. Some were retrospective and some were hypothetical (described below).

Participants

Participants were 18 years of age or older and recruited from an online sample. Participants were recruited through advertisements on social media sites, online dating sites, and the University of Detroit Mercy. Although this study strove for an ethnically diverse population, prior studies have shown that significantly more Caucasian individuals use the Internet than other groups (Sautter et al., 2010). Therefore, the sample for this study was hypothesized to be primarily Caucasian. For the purposes of this study, only heterosexual participants were actively recruited. According to Lever, Grov, Royce, and Gillespie (2008), gay, lesbian, and bisexual (GLB) individuals are more likely than heterosexual individuals to use online dating and may use online dating for different reasoning than heterosexual individuals (e.g., less serious commitment and seeking new friends, as opposed to romantic relationships). The Internet also provides a medium through which to avoid sexual stigma

and explore sexuality in a safe and anonymous environment that may be attractive to GLB individuals in a way that does not translate to the heterosexual normative population. Due to these differences, only heterosexual participants were sought for this study. Participants were screened for psychopathology with the Brief Symptom Inventory 18 (BSI 18; Derogatis, 2000). It was intended that participants with a Global Severity Index in the high risk for psychiatric disorders range (i.e., raw score of 18 or higher for males and 21 or higher for females) would be excluded from analyses, although difficulties arose with this screening measure that will be described in the Results section. Participants were also screened using the Marlow-Crowne Social Desirability Scale 1(10) (Strahan & Gerbasi, 1972). Participants demonstrating a social desirability response bias were excluded from further analysis. Finally, protocols that were incomplete will be excluded from the analysis.

Measures

Demographics. A demographic questionnaire was created for use in this study to gather information on age, sex, race/ethnicity, relationship status, and sexual orientation (Appendix B).

Online dating site use/attitudes. Participants were asked forced-choice questions about use of online dating sites and lying about meeting a partner online (Appendix C).

These items were created by the investigator.

Shyness. The 13-item Revised Cheek and Buss Shyness Scale (RCBSS-13; Cheek & Briggs, 1990; Appendix D) was used to assess participants' shyness. Participants respond to items such as "I am somewhat socially awkward" and "It is very hard for me to act natural when I am meeting new people" on a 5-point scale ranging from 1, "very uncharacteristic or untrue, strongly disagree" to 5, "very characteristic or true, strongly agree." The internal

consistency has been shown to be .90. Forty-five day test-retest reliability was good ($r = .88$). It has also been shown to have good convergent validity with other shyness measures (see Hopko, Stowell, Jones, Armento, & Cheek, 2005 for a review). Although the measure has not been used with an online population, it has been used extensively with the undergraduate population in examining shyness as it relates to Internet use (Baker & Oswald, 2010; Crozier, 2005; Ebeling-Witte et al., 2007; Ward & Tracey, 2004).

Shame. The Personal Feelings Questionnaire-2 (PFQ-2; Harder, Culter & Rockhart, 1992; see Appendix E) was used to assess participants' shame. Participants rated how often they experienced feelings such as "Embarrassed" and "Self-conscious" on a scale from 0 (i.e., "You never experience the feeling") to 4 (i.e., "You experience the feelings continuously or almost continuously"). Shame and guilt are concepts that are often confused and used interchangeably (see Blum, 2008; Tangney, 1996 for a review of the literature). The authors found that the questionnaire was able to distinguish between shame and guilt, as shame was related to social anxiety, shyness, and locus of control, as opposed to guilt, which was not related to these three characteristics. However, both were associated with low self-esteem, self-derogation, lack of self-image stability, and depression. The internal consistency has been shown to be .80. The internal consistency of the Shame Scale, specifically, was found to be .78 (Harder & Zalma, 1990). Construct validity has been demonstrated (Harder & Greenwald, 1999). Although the PFQ-2 has not been used with an online population, it (and its predecessor the PFQ) has been used to assess shame with undergraduates (Einstein & Lanning, 1998; Henderson, 2000).

The Test of Self-Conscious Affect-3 (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000; Appendix F) was used to assess participant's shame-proneness. The

TOSCA-3 is a 16-item measure that asks the participants to place themselves in imaginary scenarios such as, “At work, you wait until the last minute to plan a project, and it turns out badly.” The participants are then asked to rate statements related to shame (e.g., “ You feel like you want to hide”) and guilt (e.g., “You would think ‘I should have recognized the problem and done a better job’”) on a 5-point Likert-type scale (1 = “not likely”; 5 = “very likely”). The internal consistency for the shame scale has been shown to be .77.

The TOSCA-3 is based on the original TOSCA (Tangney, Wagner, & Gramzow, 1989), which has been substantially researched and validated (Fontaine, Luyten, De Boeck, & Corveleyn, 2001; Tangney & Dearing, 2002). Many of the items of the TOSCA-3 are identical to the TOSCA, however the authors recommend using the newer version, due to revisions (Tangney & Dearing, 2002). The internal consistency has been shown to be .77. For the Shame Scale, the internal consistency has been shown to be somewhat lower, at .74, although this is higher than the Guilt Scale, which was shown to be .64 with adults. Test-retest reliabilities of the TOSCA with an undergraduate sample were shown to be .85 for the Shame Scale and .74 over a 3-5 week period (Tangney, Wagner, Fletcher, & Gramzow, 1992). Although the TOSCA has not been used with an online sample, it has been used with adults and undergraduates (Einstein & Lanning, 1998; Tangney, Wagner, Barlow, Marschall, & Gramzow, 1996).

Stigma. The Self-Stigma of Seeking Help Scale (SSOSHS; Vogel, Wade, & Haake, 2006) was adapted for this investigation to measure self-stigma related to online dating. The SSOSHS is a 10-item measure that asks the participant to rate such statements as “I would feel inadequate if I went to a therapist for psychological help” on a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The internal consistency has ranged from .86 to .91.

Test-retest reliability was shown to be .72. The measure is based on Corrigan's (2004) work on the self-stigma of mental illness negatively impacting self-esteem, and it has been validated across five studies (Vogel et al., 2006) and cross-culturally (Vogel et al., 2013). SSOSHS items were adapted by the investigator to address self-stigma related to online dating as opposed to seeking psychological help and renamed the Self-Stigma of Online Dating Scale (SSODS, Appendix G). For example, the aforementioned item reads "I would feel inadequate if I used an online dating website for help finding a partner." Revised items were presented to five colleagues to assess clarity. On the basis of feedback, the wording of some items was altered for clarity.

The Stigma Scale for Seeking Psychological Help (SSRPH; Komiya, Good, & Sherrod, 2000) was adapted for this investigation to measure public stigma related to online dating. According to Corrigan (2004), public stigma relates to the perception of a society or group that certain individuals are socially unacceptable, and this reaction may lead to negative reactions towards them. Public stigma is different from self-stigma, which is related to how an individual feels about him- or herself. The SSRPH is a 10-item measure that asks participants to rate such statements as "It is advisable for a person to hide from people that he/she has seen a psychologist" in a Likert-type scale from 0 (strongly disagree) to 3 (strongly agree). The internal consistency has been shown to be .72. SSRPH items were adapted to address public stigma related to online dating as opposed to seeking psychological help and renamed the Public Stigma Scale for Online Dating (PSSOD, Appendix H). For example, the aforementioned item reads "It is advisable for a person to hide from people that he/she has used an online dating website." Revised items were presented to five colleagues to assess clarity. On the basis of feedback, the wording of some items was altered for clarity.

Neither of these stigma measures appears to have been used with an online sample, and both were developed and validated in a primarily Caucasian undergraduate population (Komiya et al., 2000; Vogel et al., 2006).

Psychopathology. The Brief Symptom Inventory 18 (BSI 18) was used to screen for psychopathology (Derogatis, 2000; Appendix I). The BSI 18 is an 18-item inventory, shortened from the original 53-item BSI (Derogatis, 1993), and can be completed in about four minutes. Although the BSI 18 has only three subscales (i.e., Depression, Anxiety, Somatization) Derogatis proposes the BSI 18 is an appropriate screener as about 80% of psychological disorders fall into the category of depressive or anxiety disorders. The Global Severity Index (GSI) is highly correlated with that of the BSI and the BSI 18 has demonstrated good reliability (test-retest reliability of .89 for GSI). Participants rank items such as “Feeling no interest in things” on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely) for the past seven days. Although the BSI 18 is somewhat new, it has been used with both community and clinical adult samples (Andreu et al., 2008; Wiesner et al., 2010), and the BSI has been used extensively and cross-culturally with adults and undergraduates (Cochran & Hale, 1985, Iwamasa & Kooreman, 1995; Ryan, 2007). It does not appear to have been used with an online population.

Social Desirability. The Marlow-Crowne Social Desirability Scale [M-C 1(10), Appendix J] was used to screen for response bias indicating a need for social approval and endorsement of only culturally acceptable traits (Strahan & Gerbasi, 1972). It is a 10-item true-false measure based on the original 33-item measure (Crowne & Marlow, 1960). The measure includes items such as “I’m willing to admit it when I make a mistake.” Internal

consistency has ranged from .59 to .70. The measure was validated on a primarily undergraduates, as well as undergraduates and non-student males from a London sample.

Procedure

Participants followed a link from the advertisement to the online questionnaires. There, they received information on informed consent. Participants were then asked to fill out anonymous demographic and online dating site use information, as well as questionnaires about shyness, shame, and psychopathology. Measures were presented in the aforementioned order. The administration of the protocol required approximately 35 minutes to complete. As the participants completed the questionnaires online, there was not an opportunity to debrief them following their submissions. Participants were informed of the nature and purpose of the project as part of the informed consent, and were provided with a link to a website following the completion of the questionnaires that will display aggregate results of the study when they are available.

Statistical Analysis

Variables were screened for normality and missing data. The assumptions of logistic regression were evaluated through SPSS, with no significant problems found which is further discussed in the Results section. Pearson correlations were used to test H1 to determine if there is a relationship between shyness (as measured by the RCBSS-13) and shame (as measured by the PFQ-2 Shame Scale). The TOSCA-3 was excluded from all analyses as described in the Results section. Pearson correlations were also used to test H2 to determine if there is a relationship between shame (as measured by the PFQ-2 Shame Scale) and stigma (as measured by the SSODS and the PSSOD). H3 was examined by using a t-test to determine if participants who score higher on the measures of perceived stigma (SSODS and

PSSOD) are significantly more likely to lie about how they met a partner than participants scoring lower on these measures. A chi-square test was used to determine if individuals who have participated in online dating are more likely to lie about the origin of a relationship (H4). Finally, logistic regression was used to determine if the measures used predict lying about the origin of a relationship (H5), as lying is a categorical predictor. A common rule of thumb for sample size for regression is at least 10 cases for each predictor. With six predictors, a minimum of 60 participants was needed (Field, 2009). However, Green (1991) suggests that testing the overall fit of the model requires a minimum sample size of 96 based on six predictors. Additionally, in order to test the contribution of the individual predictors to the model, a minimum sample size of 110 was needed for six predictors. More generally, Miles and Shevlin (2001) suggest that in order to achieve a high level of power (.8 as suggested by Cohen), a sample size of 100 was needed for medium effect size findings with six predictors, whereas more than 600 participants were needed to show small effect sizes with six predictors. Given these varying guidelines, it appeared that 110 was the minimum sample size needed to draw conclusions from the logistic regression. The first logistic regression analysis measured lying about the origin of a relationship as the dependent variable. Although the study initially set out to use six predictors, the TOSCA-3 was excluded from all analyses as described in the Results section. Therefore, five predictors were used and entered into the model at the same time. To determine whether a model including shame a predictor was better than other models, the logistic regression analysis was also completed entering the first four predictors in the first step of the analysis (i.e., RCBSS-13, Online Dating, SSODS, PSSOD), and shame (i.e., PFQ-2 Shame Scale) in the second step.

Results

Sample Characteristics

The overall sample was comprised of 326 Internet users from around the world, although primarily from the United States. The sample was primarily female, and in accordance with previous research (Sautter et al., 2010), the majority was Caucasian. Previous research also indicated that LGB individuals may use online dating website for different reasons than heterosexual individuals (Lever et al., 2008), and were therefore not actively recruited for the study. A small number did participate, but were excluded from the analysis of the fully screened sample. Almost half of the participants were in the 18 to 22 year old age range (46%), with the second and third largest groups being the 23 to 29 year olds (28%) and 30 to 39 year olds (14%). In terms of relationship status, the majority of participants were single (41%) or in a relationship (41%). Most participants were from an urban (48%) or suburban (41%) setting. Finally, participants from the United States (84%) were mostly located in the Midwest (46%) and the Northeast (18%).

There were several screening measures employed with this study. The Marlow-Crown Social Desirability Scale [M-C 1(10)] was used to assess for socially desirable response bias. Participants with M-C 1(10) scores two standard deviations above the mean were excluded from further analysis due to response bias ($n = 18$). The remaining sample ($N=308$) was the basis for the statistical analysis plan, and will be referred to as the full sample. The sample was primarily female (74%) and Caucasian (74%). Almost half were in the 18 to 22 age range (43%), with 26 percent in the 23 to 29 age range, and 15 percent in the 30 to 39 age range. A vast majority was heterosexual (91%). In terms of relationship status, most participants were single (41%) or in a relationship (40%). Most participants were from

an urban (48%) or suburban setting (42%) and from the United States (85%), specifically the Midwest (54%), Northeast (22%), or Southeast (12%).

It was originally proposed that participants would be screened out if they were non-heterosexual, had a BSI 18 Global Severity Index (GSI) in the high risk for psychiatric disorders range, and demonstrated a social desirability response bias on the M-C 1(10). As previously discussed, 18 participants were screened out due to elevated M-C 1(10) scores. Twenty-eight non-heterosexual individuals were screened out of the overall sample. It was also determined that only participants from the United States would be included in the screened sample, as there were only small number of participants from other countries, and 52 participants were screened out of the full sample. When the BSI 18 was used to screen out participants, a problem arose. Based on the GSI cutoff score suggested by the BSI 18 manual (Derogatis, 2000), 81 participants were screened out from the full sample. Fifty-three participants were still above the GSI cutoff score after the other screening measures had been employed, leaving the screened sample at 189 participants. As with the previous sample, participants were primarily female (74%) and Caucasian (82%). Forty-one percent were in the 18 to 22 age range, 26 percent were in the 23 to 29 age range, and 19 percent were in the 30 to 39 age range. Relationship status of the participants was more evenly distributed, with the largest portion of participants in a relationship (42%), followed by single (35%) and married (20%). Location shifted somewhat to more suburban (50%) than urban (43%), although the majority of participants remained in the Midwest (53%) and the Northeast (21%). Given that such a large number of participants were screened out using the BSI 18, all hypotheses were analyzed with both the screened sample ($N = 189$) and the full sample ($N = 308$) to increase statistical power, determine if there were any differences in findings, and

demonstrate robustness of any potential findings. Participants with GSI scores above the cutoff (high BSI 18 group) were examined compared to the full sample, and are described below.

Participants in the high BSI 18 sample ($N = 81$) were primarily female (73%), Caucasian (64%) and heterosexual (86%). They were generally young adults in the 18 to 22 (58%) and 23 to 29 (30%) age range. Participants in this group were mostly single (49%) or in a relationship (37%) and lived in either urban (57%) or suburban (27%) areas. Participants from the United States (74%) were generally from the Midwest (52%) or Northeast (27%). This sample was not analyzed separately as part of the statistical analysis plan, however descriptive statistics were provided for all measures for comparison. The high BSI 18 sample was compared to the remaining participants in the full sample that were below the high risk for psychiatric disorders cutoff the GSI (i.e., low BSI 18 sample). Several significant differences were found. Due to the low frequency of some variables, some items were collapsed to produce cell counts large enough to analyze with a chi-square analysis, as noted below. In terms of demographics, the two samples had several significant differences as seen in Table 1. Significant differences included age composition (e.g., 18-22, 23-29, 30-39, 40+), $\chi^2(3) = 12.24, p = .007$ and racial/ethnic composition (e.g., Caucasian, Black/African American/African Origin, Asian American/Asian Origin/ Pacific Islander, other), $\chi^2(3) = 11.22, p = .01$. The two groups also had significantly different locations (e.g., urban, suburban, rural), $\chi^2(2) = 11.79, p = .003$ and countries (e.g., United States, Singapore, other) $\chi^2(2) = 11.46, p = .003$. In terms of online dating attitudes, the high and low BSI 18 samples did not differ on the Online Dating Site Use/Attitudes Questionnaire, including lying about where a partner was met. However, they did differ significantly on all other measures as seen

in Table 2: RCBSS-13 Total, $t(306) = 5.63, p < .001$, PFQ-2 Shame Scale, $t(306) = 11.57, p < .001$, SSODS, $t(306) = 4.55, p < .001$, and the PSSOD, $t(306) = 4.56, p < .001$. This indicates that the mean responses to these measures were significantly different in the two samples. The implications of these differences will be discussed further later.

Table 1

*Group Differences in Demographics for Participants Above and Below the BSI 18**Psychopathology Cut-Off Score*

Characteristic	Low BSI 18 Sample ^a		High BSI 18 Sample ^b		χ^2	df	p
	n	%	n	%			
Age					12.24	3	.007
18-22	94	41	47	58			
23-29	61	27	24	30			
30-39	40	18	5	6			
40+	32	14	5	6			
Race/Ethnicity					11.2	3	.01
Caucasian	176	78	52	64			
Black/African American/African Origin	25	11	7	9			
Asian American/Asian Origin/Pacific Islander	15	7	13	16			
Other	11	5	9	11			
Location					11.87	2	.003
Urban	103	45	46	57			
Suburban	107	47	22	27			
Rural	17	7	13	16			
Country					11.46	2	.003
United States	202	89	60	74			
Singapore	11	5	12	15			
Other	14	6	9	11			

Note. Totals of percentages are not 100 for every item because of rounding.

^a $n = 227$. ^b $N = 81$.

Table 2

*Group Differences in Measures for Participants Above and Below the BSI 18**Psychopathology Cut-Off Score*

Measure	Low BSI 18 Sample ^a		High BSI 18 Sample ^b		<i>t</i> (306)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
RCBSS-13	33.68	9.23	41.19	9.57	5.63	<.001
PFQ-2 Shame Scale	14.32	4.81	22.28	5.90	11.57	<.001
SSODS	26.40	8.58	31.47	8.54	4.55	<.001
PSSOD	4.91	2.93	6.62	3.10	4.56	<.001

^a*n* = 227. ^b*N* = 81.

Descriptive Statistics

Online Dating Site Use/Attitudes. Responses to the Online Dating Site Use/Attitudes Questionnaire can be seen in Table 3 for each sample. Participants were fairly evenly split across all samples with regards to whether or not they had visited an online dating website. Forty-four percent of the full sample, 42 percent of the screened sample, and 43 percent of the high BSI 18 sample had visited online dating website. Table 4 gives a more precise breakdown of participants' activity on online dating websites. While almost half of participants in all samples endorsed visiting online dating websites, the overwhelming majority indicated that they had never made a profile for an online dating website: 60 percent of the full sample, 71 percent of the screened sample, and 69 percent of the high BSI 18 sample. Twelve percent of the full sample, 10 percent of the screened sample, and 12 percent of the high BSI 18 sample indicated they currently have an online dating profile, while a slightly higher percentage (19% for all samples) indicated they had online dating profiles at some time in the past. The most popular online dating website varied by sample. In the full sample, 30 percent of participants who had an online dating profile either currently or in the past used OkCupid, followed by other online dating websites not listed (e.g., Tinder; 22%),

Match (20%), and Plenty of Fish (14%). In the screened sample, the most popular site was Match (30%), followed by OkCupid (20%), other sites (e.g., Tinder; 18%) and Plenty of Fish (15%). In the high BSI 18 sample, the overwhelming majority used OkCupid (44%) following by other sites (28%). Only 24 percent of the full sample, 24 percent of the screened sample, and 22 percent of the high BSI 18 sample had ever been on a date with someone they met through an online dating website as seen in Table 3. An even smaller number had been in a relationship with someone they met through an online dating website: 16 percent in the full sample, 15 percent in the screened sample, and 19 percent in the high BSI 18 sample.

Generally, most if not all of these participants had met their partner face to face: 98 percent of the full sample, 96 percent of the screened sample, and 100 percent of the high BSI 18 sample. A relatively small percentage of each sample had lied about how they met a romantic partner (21% of the full sample, 19% of the screened sample, 21% of the high BSI 18 sample). Of the participants who had lied, most (63% in the full sample, 67% of the screened sample, 70% of the high BSI 18 sample) of the lies had not involved a partner they met online. Most participants indicated they would not be more likely to lie about meeting a partner online (61% of the full sample, 61% of the screened sample, 56% of the high BSI 18 sample), and did not have friends who had lied about meeting a partner online (63% of the full sample, 63% of the screened sample, and 58% of the high BSI 18 sample).

Table 3

Responses to Online Dating Attitudes Questionnaire

Item	Full Sample ^a				Screened Sample ^b				High BSI 18 Sample ^c			
	Yes		No		Yes		No		Yes		No	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Have you ever visited an online dating website?	134	44	174	56	80	42	109	58	35	43	46	57
Have you ever gone on a date with someone you met through an online dating website?	74	24	234	76	45	24	144	76	18	22	63	78
Have you ever been in a relationship with someone you met through an online dating site?	50	16	258	84	28	15	161	85	15	19	66	81
If so, have you met this person face to face?	49	98	1	2	27	96	1	4	15	100	0	0
Have you ever lied about or made up a story about how you met a romantic partner?	63	21	245	79	36	19	153	81	17	21	64	79
If so, did this involve someone you met through an online dating website?	23	37	40	63	12	33	24	67	5	29	12	70
Would you be more likely to lie about meeting someone online?	121	39	187	61	73	39	116	61	36	44	45	56
Do you have friends who have lied about meeting someone online?	115	37	193	63	69	37	120	63	34	42	47	58

Note. Totals of percentages are not 100 for every item because of rounding.

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Table 4

Responses to Online Dating Questionnaire

Item	Full Sample ^a		Screened Sample ^b		High BSI 18 Sample ^c	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Have you ever or do you currently have a profile on an online dating website?						
Currently	36	12	19	10	10	12
Past	59	19	35	19	15	19
No	213	69	135	71	56	69
If so, which site?						
eHarmony	4	4	4	7	0	0
JDate	3	2	2	4	0	0
Match	19	20	16	30	2	8
OkCupid	28	30	11	20	11	44
Plenty of Fish	13	14	8	15	3	12
True	1	1	1	2	0	0
Zoosk	6	6	2	4	2	8
Other	21	22	10	18	7	28

Note. Totals of percentages are not 100 for every item because of rounding.

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Shyness, Shame, and Stigma Measures. Shyness ratings on the RCBSS-13 ranged from 1 (very uncharacteristic or untrue, strongly disagree) to 5 (very characteristic or true, strongly agree). Shyness ratings had a mean score of 36.07 in the full sample, (*SD* = 9.99), 33.68 (*SD* = 9.23) in the screened sample, and 41.19 (*SD* = 9.57) in the high BSI 18 sample. See Table 5 for item means and standard deviations. For the RCBSS-13, Cronbach's α = .89. According to Field (2009) Cronbach's α of .8 and above indicates good reliability of a measure. Ratings on the PFQ-2 ranged from 0 (you never experience the feeling) to 4 (you experience the feeling continuously or almost continuously). The PFQ-2 Shame Scale had a mean score of 16.51 in the full sample (*SD* = 6.26), 14.32 (*SD* = 4.81) in the screened sample, and 22.28 (*SD* = 5.90) in the high BSI 18 sample. See Table 6 for item means and standard deviations. The full PFQ-2 had a Cronbach's α of .88, while the Cronbach's α for

the Shame Scale was .83. Both are acceptable measure reliabilities. Self-stigma ratings on the SSODS ranged from 1 (strongly disagree) to 5 (strongly agree). The mean score of self-stigma ratings was 27.80 in the full sample ($SD = 8.72$), 26.40 ($SD = 8.58$) in the screened sample, and 31.47 ($SD = 8.54$) in the high BSI 18 sample. See Table 7 for item means and standard deviations. The Cronbach's α for the SSODS was .91, indicating good reliability. Finally, public stigma ratings on the PSSOD ranged from 0 (strongly disagree) to 3 (strongly agree). Public stigma ratings had a mean score of 5.31 in the full sample ($SD = 3.10$), 4.91 ($SD = 2.93$) in the screened sample, and 6.62 ($SD = 3.10$) in the high BSI 18 sample. Table 8 shows means and standard deviation of individual PSSOD items. The PSSOD Cronbach's $\alpha = .80$, indicating acceptable measure reliability.

Table 5

Means With Standard Deviations of Responses to the RCBSS-13

Item	Full Sample ^a		Screened Sample ^b		High BSI 18 Sample ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
I feel tense when I'm with people I don't know well.	3.34	1.14	3.14	1.11	3.77	1.11
I am socially somewhat awkward.	2.89	1.23	2.64	1.16	3.40	1.25
I do not find it difficult to ask other people for information.	2.64	1.20	2.52	1.19	2.81	1.16
I am often uncomfortable at parties and other social functions.	2.91	1.20	2.66	1.15	3.44	1.11
When in a group of people, I have trouble thinking of the right things to talk about.	2.74	1.15	2.53	1.07	3.23	1.23
It does not take me long to overcome my shyness in new situations.	2.66	1.08	2.48	1.05	3.06	1.13
It is hard for me to act natural when I am meeting new people.	2.70	1.14	2.41	1.08	3.20	1.03
I feel nervous when speaking to someone in authority.	2.94	1.21	2.79	1.15	3.35	1.27
I have no doubts about my social competence.	2.78	1.12	2.72	1.10	2.89	1.18
I have trouble looking someone right in the eye.	2.31	1.25	2.09	1.12	2.75	1.40
I feel inhibited in social situations.	2.74	1.06	2.54	.98	3.20	1.08
I do not find it hard to talk to strangers.	2.72	1.18	2.63	1.14	3.01	1.19
I am more shy with members of the opposite sex.	2.70	1.26	2.54	1.18	3.07	1.37

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Table 6

Means With Standard Deviations of Responses to the PFQ-2

Item	Full Sample ^a		Screened Sample ^b		High BSI 18 Sample ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Embarrassed*	1.82	.75	1.61	.64	2.36	.75
Mild guilt	1.89	.86	1.77	.81	2.28	.90
Feeling ridiculous*	1.64	.95	1.41	.77	2.21	1.10
Worrying about hurting or injuring someone	1.94	1.12	1.73	1.04	2.37	1.17
Self-consciousness*	2.60	1.04	2.31	.93	3.33	.87
Feeling humiliated*	1.30	.85	1.12	.70	1.73	1.01
Intense guilt	1.19	.94	1.03	.82	1.72	1.05
Feeling “stupid”	1.72	1.00	1.51	.85	2.35	1.05
Regret	1.84	.97	1.65	.85	2.40	1.05
Feeling “childish”*	1.48	1.02	1.24	.89	2.11	1.04
Feeling helpless, paralyzed*	1.20	1.00	.88	.81	1.94	1.09
Feelings of blushing*	1.70	1.01	1.61	.98	1.93	1.07
Feeling you deserve criticism for what you did	1.59	.94	1.47	.82	2.05	1.05
Feeling laughable*	1.99	1.16	1.87	1.17	2.47	1.00
Feeling disgusting to others*	1.06	1.09	.77	.90	1.86	1.20
Remorse	1.40	.92	1.31	.79	1.95	1.05

Note. *Contributes to Shame Scale.

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Table 7

Means With Standard Deviations of Responses to the SSODS

Item	Full Sample ^a		Screened Sample ^b		High BSI 18 Sample ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
I would feel inadequate if I used an online dating website for help finding a romantic partner.	2.87	1.32	2.66	1.30	3.31	1.28
My self-confidence would NOT be threatened if I used online dating websites.	2.85	1.25	2.67	1.24	3.41	1.19
Using online dating websites would make me feel less intelligent.	2.30	1.14	2.10	1.05	2.75	1.17
My self-esteem would increase if I used online dating websites.	3.51	.97	3.48	.94	3.54	1.07
My view of myself would not change just because I made the choice to use an online dating website.	2.69	1.10	2.61	1.08	3.01	1.12
It would make me feel inferior to use an online dating website for help with finding a romantic partner.	2.76	1.21	2.65	1.19	3.21	1.19
I would feel okay about myself if I made the choice to use an online dating website.	2.59	1.08	2.48	1.08	2.88	1.09
If I used an online dating website, I would be less satisfied with myself.	2.71	1.20	2.53	1.17	3.19	1.17
My self-confidence would remain the same if I used an online dating website because I could not meet a romantic partner through more traditional methods.	2.86	1.13	2.74	1.08	3.22	1.16
I would feel worse about myself if I could not find a romantic partner without the use of an online dating website.	2.64	1.21	2.59	1.14	2.95	1.30

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Table 8

Means With Standard Deviations of Responses to the PSSOD

Item	Full Sample ^a		Screened Sample ^b		High BSI 18 Sample ^c	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Using an online dating website to find a romantic partner carries a social stigma.	1.69	.89	1.67	.88	1.88	.89
It is a sign of personal weakness or inadequacy to use an online dating website for help finding a romantic partner.	.93	.88	.83	.84	1.16	.96
People will see a person in a less favorable way if they come to know that he/she has used an online dating website.	1.20	.85	1.13	.84	1.52	.85
It is advisable for a person to hide the fact that he/she uses online dating websites.	.90	.85	.81	.85	1.20	.83
People who use online dating websites are less well liked than others.	-.59	.68	.48	.58	.86	.79

^a*N* = 308. ^b*N* = 189. ^c*N* = 81.

Test of Hypotheses

Hypothesis 1. The first hypothesis stated that a measure of shyness would be significantly correlated with a measure of shame. Shyness was significantly related to shame in both the full sample, $r = .54, p < .001$, as seen in Table 9 and the screened sample, $r = .45, p < .001$ as seen in Table 10.

Table 9

Intercorrelations for Outcomes Lying about Where a Partner Was Met and Total Stigma With Predictors Shyness, Shame, Self-Stigma, and Public Stigma in the Full Sample (N = 308)

Measure	1	2	3	4	5	6
1. Lying	—					
2. RCBSS-13 Total	.01	—				
3. PFQ-2 Shame Scale	.06	.54***	—			
4. Online Dating	.15**	-.04	-.07	—		
5. SSODS Total	-.04	.16**	.29***	-.36***	—	
6. PSSOD Total	.10	.23***	.29***	-.15**	.63***	—
7. Total Stigma	-.001	.19**	.31***	-.33	.98***	.79***

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website.

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

Table 10

Intercorrelations for Outcomes Lying about Where a Partner Was Met and Total Stigma With Predictors Shyness, Shame, Online Dating, Self-Stigma, and Public Stigma in the Screened Sample (N = 189)

Measure	1	2	3	4	5	6
1. Lying	—					
2. RCBSS-13 Total	-.01	—				
3. PFQ-2 Shame Scale	.04	.45***	—			
4. Online Dating	.10	-.08	-.09	—		
5. SSODS Total	-.03	.10	.22**	-.34***	—	
6. PSSOD Total	.13	.22**	.25***	-.13	.60***	—
7. Total Stigma	.01	.14	.25***	-.31***	.98***	.76***

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website.

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

Hypothesis 2. Table 9 shows the correlation between shame, self-stigma, and public stigma in the full sample. In the full sample, shame was significantly related to self-stigma, $r = .29, p < .001$, as well as public stigma, $r = .29, p < .001$. In the screened sample, shame was significantly related to self-stigma, $r = .22, p = .002$, and public stigma, $r = .25, p < .001$ as seen in Table 10. It is of note that self- and public stigma are related to each other in both the full sample, $r = .63, p < .001$, and the screened sample, $r = .60, p < .001$.

Hypothesis 3. The relationship between perceived stigma and lying about the origin of a relationship can be seen in Table 11. To reiterate, 21 percent (i.e., 63 participants out of 308) of the full sample and 19 percent (i.e., 36 out of 189 participants) of the screened sample had lied about how a romantic relationship began. On average, there was little difference in self-stigma in the full sample whether participants had lied ($M = 27.19, SD =$

7.30) or not ($M = 27.95$, $SD = 9.06$) about the origin of a relationship. The difference was not significant $t(116) = -.62$, $p = .53$, and represents a small effect size $r = .06$. Participants who lied endorsed more public stigma ($M = 5.90$, $SD = 3.07$) than those who did not ($M = 5.16$, $SD = 3.09$). This difference was not significant $t(306) = 1.71$, $p = .09$, although it was approaching significance, and represented a small effect size $r = .10$. In the screened sample, participants who had lied on average had lower self-stigma scores ($M = 25.81$, $SD = 7.33$) than those who had not lied about the origin of a relationship ($M = 26.54$, $SD = 8.87$). The difference was not significant $t(187) = -.46$, $p = .64$ and represented a very small-sized effect $r = .03$. On average, participants in the screened sample who lied endorsed more public stigma ($M = 5.69$, $SD = 3.03$) than those who did not ($M = 4.73$, $SD = 2.89$). The difference approached significance $t(187) = 1.78$, $p = .08$, and represented a small-sized effect $r = .13$.

Table 11

Self- and Public Stigma Differences Between Individuals Who Have and Have Not Lied About How They Met a Romantic Partner

Stigma Measure	Lied		Not Lied		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Full Sample ($N = 308$)							
SSODS	27.19	7.30	27.95	9.06	116	-.62	.53
PSSOD	5.90	3.07	5.16	3.09	306	1.71	.09
Screened Sample ($N = 189$)							
SSODS	25.81	7.33	26.54	8.87	187	-0.46	.64
PSSOD	5.69	3.03	4.73	2.89	187	1.78	.08

Note. Lying coded as 1 = Yes, 0 = No.

Hypothesis 4. There was a significant association between participating in online dating (as measured by ever having an online dating profile) and whether or not an individual lied about the origin of a relationship $\chi^2(2) = 7.47$, $p = .02$ in the full sample as seen in Table 12. Based on the odds ratio, the odds of lying were 1.96 times higher if they had a profile on

an online dating website than if they did not. Post-hoc pairwise tests were completed to further examine the relationship between online dating and lying about the origin of a relationship. There was a significant association between currently having a profile on an online dating website and whether or not a participant lied about the origin of a relationship $\chi^2(1) = 6.14, p = .01$ as seen in Table 12. The odds of lying were 2.78 times higher if a participant currently had an online dating profile than if they never had, and 1.82 times higher if they currently had an online dating profile than if they had in the past. The association between a past online dating profile and lying about the origin of a relationship was not significant $\chi^2(1) = .48, p = .49$. There was a significant association between never having an online dating profile and lying about the origin of a relationship $\chi^2(1) = 5.36, p = .02$. The odds of lying were reduced by a factor of .65 if an individual never had an online dating profile than if they currently did, and by a factor of .36 if they never had an online dating profile than if they had in the past. In the screened sample, the association between having an online dating profile and lying about where a partner was met was not significant $\chi^2(2) = 4.34, p = .11$, as seen in Table 12.

Table 12

Prevalence of Profiles on Online Dating Websites In Participants Who Lied and Have Not Lied About Where a Partner Was Met

Online Dating Profile	Lied		Not Lied		$\chi^2(2)$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Full Sample (<i>N</i> = 308)					7.47	.02
Current	13	36	23	64		
Past	14	24	45	76		
Never	36	17	177	83		
Screened Sample (<i>N</i> = 189)					4.34	.11
Current	7	37	12	63		
Past	6	17	29	83		
Never	23	17	112	83		

Note. Totals of percentages are not 100 for every item because of rounding. Lying coded as 1 = Yes, 0 = No. Online Dating Profile coded as 1 = Yes, 0 = No. % = row percentage.

Table 13

Post-Hoc Comparison of Online Dating In Participants Who Lied and Have Not Lied About Where a Partner Was Met

Online Dating Profile	Lied		Not Lied		$\chi^2(1)$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Current	13	36	23	64	6.14	.01
Past	14	24	45	76	.48	.49
Never	36	17	177	83	5.36	.02

Note. Totals of percentages are not 100 for every item because of rounding. Lying coded as 1 = Yes, 0 = No. Current coded as 1 = Yes, 0 = No. Past coded as 1 = Yes, 0 = No. Never coded as 1 = Yes, 0 = No. % = row percentage.

Hypothesis 5. The fifth hypothesis was broken into two parts. The first part stated that higher levels of shyness (RCBSS-13 Total), a history of dating someone met through an online dating website, higher levels of shame (PFQ-2 Shame Scale), and high levels of

stigma (SSODS, PSSOD) would predict lying about the origin of a relationship. The second part stated that this model would be better than other models.

Hypothesis 5 was tested with several regression analyses to determine whether shyness, shame, online dating, self-stigma, and public stigma predicted lying about the origin of a relationship. Table 14 displays the means or frequencies for predictor variables and Table 9 displays the correlations for the predictor and outcome variables in the full sample.

Table 14

Means Values or Frequencies for Predictor Variables as a Function of Lying About Where a Romantic Partner Was Met for the Full Sample (N = 308)

Variable	Lied (<i>n</i> = 63)	Not Lied (<i>n</i> = 245)	χ^2 or <i>t</i>	<i>df</i>	<i>p</i>
RCBSS-13 Total	36.35	36	-.25	306	.81
PFQ-2 Shame Scale	17.3	16.31	-1.12	306	.26
Online Dating Yes (%)	34	66	6.73	1	.01
Online Dating No (%)	18	82			
SSODS Total	27.19	27.95	.70	116.31	.48
PSSOD Total	5.9	5.16	-1.71	306	.09

Note. Chi-square test used for Online Dating variable; *t* test used for all other variables.

Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online Dating = ever being involved in a relationship with someone met through an online dating website.

The first regression equation was a logistic regression with all five predictors in the full sample. Assumptions of logistic regression were met as follows: the assumption of linearity of the logit was met, as none of the interaction terms between the predictors and their log transformations were significant. The independence of error assumption was met in that all cases were used only once. Multicollinearity did not occur with the data as none of the predictors were related to a high degree (i.e., above .8; Table 9). The model for the full sample as seen in Table 15 was found to be significant, $\chi^2(5) = 13.65, p = .02$ and indicated

that online dating ($B = -.81$, $Wald(1) = 4.54$, $p = .04$) and public stigma ($B = .15$, $Wald(1) = 5.51$, $p = .02$) make a significant contribution to the prediction of lying about the origin of a relationship. As can be seen in Table 15, the odds of a person lying are lowered by a factor of .45 times when the participant has participated in online dating (scored as 1 vs. 0) and are 1.16 times higher when the participant scored one unit higher on the measure of public stigma. The goodness-of-fit of the model can be seen in Nagelkerke's R^2 , $R^2 = .07$, indicating that the fit of the model is only slightly improved by the predictor variables, including shame.

Table 15

Summary of Logistic Regression Analysis Predicting Lying About Where a Partner Was Met in the Full Sample (N = 308)

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	95% CI	Wald statistic	<i>p</i>
RCBSS-13 Total	-.01	.02	.99	[.96, 1.02]	.43	.51
PFQ-2 Shame Scale	.03	.03	1.03	[.98, 1.09]	1.30	.25
Online Dating	-.81	.38	.45	[.21, .94]	4.54	.03
SSODS Total	-.03	.02	.97	[.92, 1.01]	2.07	.15
PSSOD Total	.15	.06	1.16	[1.02, 1.31]	5.51	.02

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website. CI = confidence interval for odds ratio (*OR*). $R^2 = .07$ (Nagelkerke). Model $\chi^2(5) = 13.65$, $p = .02$.

The second part of hypothesis 5 was first addressed by removing shame as a predictor from the logistic regression in the full sample. As seen in Table 16, the overall model was also significant, $\chi^2(4) = 12.35$, $p = .02$. Online dating ($B = -.82$, $Wald(1) = 4.64$, $p = .03$) and public stigma ($B = .15$, $Wald(1) = 5.88$, $p = .02$) were still the only significant predictors of lying about the origin of a relationship. The odds of a person lying were lowered by a factor

of .44 when a person had participated in online dating and 1.16 times higher when a participant scored one unit higher on the measure of public stigma. Nagelkerke's R^2 ($R^2 = .06$) indicates that once again, the predictors are only slightly helpful in predicting lying. Notably, the change in predictive power of the model when adding shame as a predictor was not significant, $\chi^2(1) = 1.30, p = .25$, indicating that the addition of shame to the model was not significantly helpful in the model's ability to predict lying.

Table 16

Summary of Logistic Regression Analysis Predicting Lying About Where a Partner Was Met Without Shame as a Predictor in the Full Sample (N = 308)

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	95% CI	Wald statistic	<i>p</i>
RCBSS-13 Total	-.001	.02	1.00	[.97, 1.03]	.01	.92
Online Dating	-.82	.38	.44	[.21, .93]	4.64	.03
SSODS Total	-.03	.02	.97	[.93, 1.02]	1.67	.20
PSSOD Total	.15	.06	1.16	[1.03, 1.32]	5.88	.02

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website. CI = confidence interval for odds ratio (*OR*). $R^2 = .06$ (Nagelkerke). Model $\chi^2(4) = 12.35, p = .02$.

The regression was run in the screened sample. Table 17 displays the means or frequencies for predictor variables and Table 0 displays the correlations for the predictor and outcome variables in the screened sample. All assumptions of logistic regression were met. The overall model with the five predictors was not found to significantly predict lying about the origin of a relationship, $\chi^2(5) = 8.40, p = .14$ as seen in Table 18. Therefore, the analysis was not repeated omitting shame as a predictor.

Table 17

Means Values or Frequencies for Predictor Variables as a Function of Lying About Where a Romantic Partner Was Met for the Full Sample (N = 189)

Variable	Lied (n = 36)	Not Lied (n = 153)	χ^2 or <i>t</i>	<i>df</i>	<i>p</i>
RCBSS-13 Total	33.64	33.69	.03	187	.98
PFQ-2 Shame Scale	14.75	14.23	-.58	187	.56
Online Dating Yes (%)	29	71			
Online Dating No (%)	17	83	1.93	1	.16
SSODS Total	25.81	25.54	.46	187	.64
PSSOD Total	5.69	4.73	-1.78	187	.08

Note. Chi-square test used for Online Dating variable; *t* test used for all other variables.

Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online Dating = ever being involved in a relationship with someone met through an online dating website.

Table 18

Summary of Logistic Regression Analysis Predicting Lying About Where a Partner Was Met in the Screened Sample (N = 189)

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	95% CI	Wald statistic	<i>p</i>
RCBSS Total	-.02	.02	.99	[.94, 1.03]	.41	.52
PFQ-2 Shame Scale	.03	.05	1.03	[.94, 1.12]	.34	.56
Online Dating	-.51	.52	.60	[.22, 1.67]	.95	.33
SSODS Total	-.05	.03	.95	[.90, 1.01]	2.32	.13
PSSOD Total	.20	.09	1.23	[1.04, 1.45]	5.76	.02

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website. CI = confidence interval for odds ratio (*OR*). $R^2 = .07$ (Nagelkerke). Model $\chi^2(5) = 8.40$, $p = .14$.

Secondary Analysis

Hypothesis Retesting. Although several significant predictors of lying emerged in the logistic regression analysis, the goodness-of-fit statistics indicated that neither model (i.e., with and without shame) was very good at predicting lying. Therefore, hierarchical multiple regression was used to further examine the second part of hypothesis five and determine if the measures were better at predicting stigma directly. The assumptions of regression were met and no problems were found to exist with multicollinearity as seen in Table 9. Refer to Table 9 and 10 for correlations for predictor and outcome variables in the analysis for the full and screened samples, respectively. An overall model of three predictors (RCBSS Total, Online Dating, and PFQ-2 Shame Scale) significantly predicted total stigma (as measured by a sum of SSODS and PSSOD), in the full sample $R^2 = .19$, $F(3, 304) = 24.45$, $p < .001$. However, Online Dating ($\beta = -.31$, $p < .001$) and the PFQ-2 Shame Scale ($\beta = .28$, $p < .001$) were the only significant predictors. This model accounted for 19.4% of the variance in total stigma.

As seen in Table 19, the model without shame was also significant, $\Delta R^2 = .14$, $\Delta F(2, 305) = 24.95$, $p < .001$, indicating that the RCBSS Total ($\beta = .18$, $p = .001$) and Online Dating ($\beta = -.32$, $p < .001$) significantly predict total stigma. However, ΔR^2 when adding the PFQ-2 Shame Scale was significant, $\Delta R^2 = .05$, $\Delta F(1, 304) = 20.30$, $p < .001$, indicating that the addition to the equation of the PFQ-2 Shame Scale significantly improved R^2 .

Table 19

Hierarchical Multiple Regression Analysis Summary for Predictors of Stigma in the Full Sample (N = 308)

Variable	β	R^2	ΔR^2	ΔF
Model Without Shame		.14	.14	24.95***
RCBSS Total	0.18**			
Online Dating	-0.32***			
Model With Shame		.19	.05	20.30***
RCBSS Total	0.03			
Online Dating	-0.31***			
PFQ-2 Shame Scale	0.28***			

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website.

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

The same procedure was repeated in the screened sample. The overall model with three predictors (RCBSS-13 Total, Online Dating, and PFQ-2 Shame Scale) significantly predicted total stigma in the screened sample, $R^2 = .15$, $F(3, 185) = 10.75$, $p < .001$ with Online Dating ($\beta = -.29$, $p < .001$) and the PFQ-2 Shame Scale ($\beta = .22$, $p < .001$) significantly predicting total stigma as seen in Table 20. This model accounted for 14.8% of the variance in total stigma. As seen in Table 20, the model without shame was also significant $\Delta R^2 = .11$, $\Delta F(2, 186) = 11.67$, $p < .001$, indicating that the RCBSS-13 Total and online dating significantly predict total sigma. However, ΔR^2 when adding the PFQ-2 Shame Scale was significant, $\Delta R^2 = .04$, $\Delta F(1, 185) = 8.03$, $p = .005$, indicating that adding shame to the model significantly improved the prediction of stigma.

Table 20

Hierarchical Multiple Regression Analysis for Predictors of Stigma in the Screened Sample

(N = 189)

Variable	β	R^2	ΔR^2	ΔF
Model without Shame		.11	.11	11.67***
RCBSS Total	.12			
Online Dating	-.30***			
Model With Shame		.15	.04	8.03**
RCBSS Total	.02			
Online Dating	-.29***			
PFQ-2 Shame Scale	.22***			

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website.

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

TOSCA-3. As previously mentioned, the TOSCA-3 was excluded from all hypothesis testing, as there were 93 protocols with missing TOSCA-3 data. However, only certain TOSCA-3 items are necessary for calculation of the Shame Scale. Seventy-seven protocols were found to have missing data from the TOSCA-3 Shame Scale. Following the main analysis, participants that had completed all TOSCA-3 items necessary to compute the Shame Scale were examine separately. As with the main analysis, screening measures were employed. Twelve participants with M-C 1(10) scores two standard deviations above the mean were excluded from further analysis due to response bias. Of the remaining participants ($n = 237$), 19 participants reported they were not heterosexual and 36 reported they were currently residing outside the United States. After employing these screening measures, 184 participants remained. Forty additional participants were screened out due to BSI 18 scores

above the psychopathology cutoff. Therefore, 144 participants with a complete TOSCA-3 Shame Scale were used for the analysis after screening measures had been employed.

Sample Characteristics. As with the other samples, the majority of participants were female (76%) and Caucasian (86%). Most of the participants were also in the 18 to 22 (37%), 23 to 29 (26%) and 30 to 39 (22%) age range. Participants in this sample were generally in a relationship (40%), single (34%) or married (22%). They were mostly from suburban (52%) or urban (40%) areas of the Midwest (56%), followed by the Northeast (19%) and Southeast (10%).

Descriptive Statistics. Ratings on the TOSCA-3 ranged from 1 (not likely) to 5 (very likely) for each response to the scenarios. The Shame Scale consisted of one item for each scenario (16 total). Items can be seen in Appendix E. The mean Shame Scale score was 42.26 ($SD = 9.55$). See Table 21 for means and standard deviations of individual items. The Cronbach's α for the TOSCA-3 was .86 for the overall measure and .75 for the Shame Scale. Both are acceptable reliabilities.

Table 21

Means With Standard Deviations of Responses to the Shame Scale of the TOSCA-3 (N = 144)

Item	<i>M</i>	<i>SD</i>
1. You make plans to meet a friend for lunch. At 5 o'clock, you realize you stood your friend up. a) You would think: "I am inconsiderate."	3.94	1.20
2. You break something at work and then hide it. b) You would think about quitting.	1.28	.74
3. You are out with friends one evening, and you're feeling especially witty and attractive. Your best friend's spouse particularly enjoys your company. e) You would probably avoid eye contact for a long time.	2.57	1.50
4. At work, you wait until the last minute to plan a project, and it turns out badly. a) You would feel incompetent.	3.49	1.35
5. You make a mistake at work and find out a coworker is blamed for the error. c) You would keep quiet and avoid the coworker.	1.74	1.06
6. For several days you put off making a difficult phone call. At the last minute you make the call and are able to manipulate the conversation so that it all goes well. c) You would feel like a coward.	2.08	1.15
7. While playing around, you throw a ball and it hits your friend in the face. a) You would feel inadequate that you can't even throw a ball.	1.93	1.26
8. You recently moved away from your family, and everyone has been very helpful. A few times you needed to borrow money, but you paid it back as soon as you could. a) You would feel immature.	2.22	1.25
9. You are driving down the road and you hit a small animal. b) You would think: "I am terrible."	2.90	1.45
10. You walk out of an exam thinking you did extremely well. Then you find out you did poorly. d) You would feel stupid.	3.08	1.29
11. You and a group of coworkers worked very hard on a project. Your boss singles you out for a bonus because the project was a success. b) You would feel alone and apart from your colleagues.	2.57	1.37
12. While out with a group of friends, you make fun of a friend who's not there. b) You would feel small...like a rat.	2.36	1.27
13. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you. b) You would feel like you wanted to hide.	3.24	1.42
14. You volunteer to help the local Special Olympics for handicapped children. It turns out to be frustrating and time-consuming work. You think seriously about quitting, but then see how happy the kids are. a) You would feel selfish, and you think you are basically lazy.	2.77	1.42
15. You are taking care of your friend's dog while on vacation, and the dog has run away. a) You would think: "I am irresponsible and incompetent."	3.36	1.36
16. You attend your coworker's housewarming party and spill red wine on a new cream-colored carpet, but you think no one notices. c) You would wish you were anywhere but at the party.	2.72	1.47

Hypothesis 1. This hypothesis stated that a measure of shyness would be significantly correlated with measures of shame. Shyness was significantly related to shame on both the TOSCA-3 Shame Scale, $r = .35, p < .001$, and the PFQ-2 Shame Scale, $r = .46, p < .001$, as seen in Table 22.

Table 22

Intercorrelations for Outcomes Lying about Where a Partner Was Met With Predictors Shyness, Shame, Online Dating, Self-Stigma, and Public Stigma in the Complete TOSCA-3 Screened Sample (N = 144)

Measure	1	2	3	4	5	6
1. Lying	—					
2. RCBSS-13 Total	-.01	—				
3. TOSCA-3 Shame Scale	-.05	.36***	—			
4. PFQ-2 Shame Scale	.01	.46***	.34***	—		
5. Online Dating	.10	-.13	-.05	-.11	—	
6. SSODS Total	-.06	.05	.27**	.24**	-.37***	—
7. PSSOD Total	.09	.16	.13	.24**	-.22**	.58***

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating website.

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

Hypothesis 2. Hypothesis 2 stated that measures of shame would be related to measures of perceived stigma. Table 22 shows the correlation between shame, self-stigma, and public stigma. The TOSCA-3 Shame Scale was significantly related to self-stigma, $r = .27, p = .001$, but not to public stigma, $r = .13, p = .11$. Interestingly, the PFQ-2 Shame Scale was significantly related to self-stigma, $r = .24, p = .004$, and public stigma, $r = .24, p = .004$. It is of note that the measures of shame were significantly correlated, $r = .34, p < .001$, although not to the same degree that self- and public stigma were related, $r = .58, p < .001$.

Hypothesis 3. According to hypothesis 3, individuals who score higher on stigma measures will be more likely to lie about the origin of a relationship. The relationship between perceived stigma and lying about the origin of a relationship can be seen in Table 23. In the complete TOSCA-3 screened sample, 19 percent of participants ($n = 28$) had lied about how a romantic relationship began. Participants who lied about the origin of a relationship endorsed a similar level self-stigma ($M = 25.21, SD = 7.24$) than those who did not ($M = 26.46, SD = 8.64$). This difference was not significant $t(142) = -.70, p = .48$, and represents a small effect size $r = .06$. Participants who lied endorsed a similar level of public stigma ($M = 4.07, SD = 2.05$) than those who did not ($M = 3.60, SD = 2.17$). This difference was not significant $t(142) = 1.03, p = .30$, and represented a small effect size $r = .09$.

Table 23

Self- and Public Stigma Differences Between Individuals Who Have and Have Not Lied About How They Met a Romantic Partner in the Complete TOSCA-3 Screened Sample (N = 144)

Stigma Measure	Lied		Not Lied		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
SSODS	25.21	7.24	26.46	8.64	144	-.70	.48
PSSOD	4.07	2.05	3.60	2.17	144	1.03	.30

Note. Lying coded as 1 = Yes, 0 = No.

Hypothesis 4. Hypothesis 4 stated that individuals who have participated in online dating would be more likely to have lied about the origin of a relationship than those who did not. There was not a significant association between participating in online dating and whether or not an individual lied about the origin of a relationship $\chi^2(2) = 3.17, p = .21$ as seen in Table 24.

Table 24

Prevalence of Profiles on Online Dating Websites In Participants Who Lied and Have Not Lied About Where a Partner Was Met in the Complete TOSCA-3 Screened Sample (N = 144)

Online Dating Profile	Lied		Not Lied		$\chi^2(2)$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Current	6	35	11	65	3.17	.21
Past	4	15	22	85		
Never	16	16	83	84		

Note. Totals of percentages are not 100 for every item because of rounding. Lying coded as 1 = Yes, 0 = No. Online Dating Profile coded as 1 = Yes, 0 = No. % = row percentage.

Hypothesis 5. The fifth hypothesis was broken into two parts. The first part stated that higher levels of shyness (RCBSS-13 Total), a history of involvement in a relationships with someone met through an online dating website, higher levels of shame (TOSCA-3 Shame Scale, PFQ-2 Shame Scale), and high levels of stigma (SSODS, PSSOD) would predict lying about the origin of a relationship. The second part stated that this model would be better than other models.

Hypothesis 5 was tested with a logistic regression analyses to determine whether shyness, shame, online dating, self-stigma, and public stigma predicted lying about the origin of a relationship. Table 25 displays the means or frequencies for predictor variables and Table 22 displays the correlations for the predictor and outcome variables in the TOSCA-3 screened sample.

Table 25

Means Values or Frequencies for Predictor Variables as a Function of Lying About Where a Romantic Partner Was Met for the Complete TOSCA-3 Screened Sample (N = 144)

Variable	Lied (<i>n</i> = 28)	Not Lied (<i>n</i> = 116)	χ^2 or <i>t</i>	<i>df</i>	<i>p</i>
RCBSS-13 Total	33.36	33.69	-.17	142	.87
TOSCA-3 Shame Scale	41.39	42.47	-.54	142	.59
PFQ-2 Shame Scale	14.36	14.19	.16	142	.87
Online Dating Yes (%)	29	71	1.31	1	.25
Online Dating No (%)	18	82			
SSODS Total	25.21	26.46	-.70	142	.48
PSSOD Total	4.07	3.60	1.03	142	.30

Note. Chi-square test used for Online Dating variable; *t* test used for all other variables.

Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online Dating = ever being involved in a relationship with someone met through an online dating website.

The first regression equation was a logistic regression with all five predictors in the full sample. Assumptions of logistic regression were met. The model as seen in Table 26 was not found to be significant, $\chi^2(6) = 4.79, p = .57$. Therefore, the analysis was not repeated omitting shame as a predictor. It is notable that public stigma was approaching significance as a predictor of lying about the origin of a relationship. The goodness-of-fit of the model can be seen in Nagelkerke's $R^2, R^2 = .05$, indicating that the fit of the model is only slightly improved by the predictor variables, including the two shame variables.

Table 26

Summary of Logistic Regression Analysis Predicting Lying About Where a Partner Was Met in the Complete TOSCA-3 Screened Sample (N = 144)

Variable	<i>B</i>	<i>SE</i>	<i>OR</i>	95% CI	Wald statistic	<i>p</i>
RCBSS-13 Total	-.01	.03	.99	[.94, 1.05]	.08	.78
TOSCA-3 Shame Scale	-.01	.03	.99	[.94, 1.04]	.13	.72
PFQ-2 Shame Scale	.02	.03	1.02	[.92, 1.23]	.12	.73
Online Dating	-.54	.61	.58	[.18, 1.92]	.79	.38
SSODS Total	-.04	.04	.96	[.90, 1.03]	1.30	.25
PSSOD Total	.22	.12	1.24	[.97, 1.58]	3.00	.08

Note. Lying coded as 1 = Yes, 0 = No. Online Dating coded as 1 = Yes, 0 = No. Online

Dating = ever being involved in a relationship with someone met through an online dating

website. CI = confidence interval for odds ratio (*OR*). $R^2 = .05$ (Nagelkerke). Model $\chi^2(6) =$

4.79, $p = .57$.

Discussion

Overview

The purpose of this study was to examine the relationship between shyness, shame, and stigma towards online dating. Based on the connections in the literature between shyness and shame (Henderson, 2000; Kalliopuska), and shame and stigma (Gilbert, 1992, 2002; Greenwald & Harder, 1998), these variables were examined in the context of their influence on lying about the origin of a relationship. Although there was partial support for these hypotheses, the overall model of shyness, shame, involvement in a relationship with someone met through an online dating website, and stigma towards online dating was not a good predictor of lying about the origin of a relationship. This section presents an overview of the findings before considering the evidence for each hypothesis separately. It ends with a discussion of the study's limitations and suggestions for future research.

Although the predictive power of the overall model was not as robust as hoped, there are some interesting findings that can be discussed based on the results of this study. In general, it appears as though public stigma (e.g., stereotyping, prejudice, and discrimination from the general public that is uninformed about a certain group; Corrigan, 2004) is the best predictor of lying about the origin of a relationship. This was the most robust finding of the model for predicting lying about the origin of a relationship in that it was a significant predictor in the full sample, the screened sample, and was approaching significance in the complete TOSCA-3 screened sample (i.e., the smallest analyzed sample). Another interesting, albeit unintentional, finding was the difference in results found through the utilization of two different variables examining an individual's level of involvement with online dating. For the examination of the relationship between participating in online dating

and lying about the origin of a relationship (Hypothesis 4), online dating was measured by the endorsement of currently, in the past, or never having a profile on an online dating website. For the examination of the model predicting lying about the origin of a relationship (Hypothesis 5) online dating was measured by ever being involved in a relationship with someone met through an online dating website. Findings suggested that individuals who endorsed having a profile on an online dating website either currently or in the past were more likely to lie about the origin of a relationship. These findings were significant in the full sample, but not in either of the smaller samples. Involvement in a relationship with someone met online was found to be a significant predictor of lying about the origin of a relationship in the full sample predictive model, but indicated that involvement in a relationship with someone met online decreased an individual's likelihood of lying about the origin of a relationship. These findings were not replicated in the smaller samples. Again, neither finding is as robust as one would like, but taken together these results seem to suggest that lying about the origin of a relationship may be mediated by an individual's level of involvement with online dating. That is, individuals who have been involved in relationships with people they met through an online dating website may feel less need to hide their use of online dating websites than someone who has had less direct contact with online dating.

Hypotheses

Hypothesis 1 investigated the relationship between shyness and shame. They were related to a generally moderate degree in all samples (i.e., full sample, screened sample, complete TOSCA-3 sample). This finding was expected, as previous research has shown that shyness and shame share several characteristics (Henderson, 2000; Kalliopuska, 2008). Interestingly, the PFQ-2 Shame Scale was related to a higher degree with the RCBSS-13 than

the TOSCA-3. The PFQ-2 asked participants to rate how often they experience feelings such as “Embarrassed” or “Self-conscious” whereas the TOSCA-3 asked participants to rate how they would theoretically respond in specific scenarios and measures shame-proneness.

Previous research has shown the original version of the TOSCA Shame Scale to be related to the PFQ-2 Shame Scale to a higher degree than seen in the present study in a student sample (Gilbert, 2000). It may be that the difference between these two measures found in this study is related to the way they measure shame, or that one measures shame-proneness while the other measures characteristics associated with shame. However, it is beyond the scope of this project to speculate on the cause of the difference in the relationship to shyness between the two shame measures, even though it bears mentioning.

Hypothesis 2 investigated the relationship between shame and stigma. Shame as measured by the PFQ-2 Shame Scale was related to both public and self-stigma in all samples. Again, this finding was expected, as shame has been associated with stigma (Gilbert, 1992, 2002; Greenwald & Harder, 1998). As with Hypothesis 1, there were differences in findings between the PFQ-2 Shame Scale and the TOSCA-3 Shame Scale. While the PFQ-2 Shame Scale was related to both public and self-stigma, the TOSCA-3 Shame Scale was only related to self-stigma. This is particularly interesting as shame is considered to be a social emotion (Gilbert, 2003; Lewis, 2003) and many of the scenarios on the TOSCA-3 involve interactions with others. However, self-focused attention has also been associated with shame (Gilbert et al., 2004). As previously mentioned, this difference in findings may be related to the difference in measurement between the PFQ-2 and the TOSCA-3 or the particular aspects of shame that are measured by each scale. It may also be

that self-stigma is related to shame-proneness while public stigma is not. This would be an area for future research.

Public stigma and self-stigma were related in all samples, which agrees with previous research (Link, 1987; Wright et al., 2000) on stigma and seeking treatment for mental illness. Therefore, this finding provides further evidence for the robustness in the relationship between public and self-stigma in a new area of study. On a logistical level, these findings also provide support and validation for the SSODS and PSSOD, which were adapted for this study to reflect stigma towards online dating from research investigating stigma towards seeking treatment for mental illness. Both measures demonstrated good reliability, with the SSODS demonstrating the highest reliability between the shyness, shame, and stigma measures.

Hypothesis 3 investigated the relationship between stigma and lying about the origin of a relationship. In all samples, there were a minority of participants who had lied about the origin of a relationship, indicating that this may not be the best objective measure of how stigma impacts online daters. Participants who endorsed lying about the origin of a relationship did not experience higher public or self-stigma than those who did not lie in all samples. These findings indicate that lying about the origin of a relationship is not related to stigma and likely is not an appropriate objective measure of the impact of stigma. There is no previous research that examines the role of stigma towards online dating in lying about the origin of a relationship. Previous research on stigma related to seeking treatment for mental illness indicated that individuals who felt personal or family shame related to mental health treatment were less likely to seek treatment (Sirey et al., 2001). As Hypothesis 2 indicated that shame and stigma are related, it may be that simply avoiding the use of online dating

websites may be a better objective measure of how stigma towards online dating affects individuals.

Hypothesis 4 investigated the relationship between participation in online dating (as measured by creation of an online dating profile) and lying about the origin of a relationship. In the full sample, individuals who indicated they had an online dating profile either currently or in the past were more likely to have lied about the origin of a relationship. However, this was not a robust result, as this finding was not replicated in the smaller screened or TOSCA-3 samples. Further analysis of the full sample suggested that individuals who indicated they currently had a profile on an online dating website were more likely to have lied about the origin of a relationship. There was no significant association between having an online dating profile in the past and lying about the origin of a relationship. Individuals who never had an online dating profile were less likely to lie than both individuals who currently had a profile and those who had a profile in the past. As with Hypothesis 3, there has been no research on lying about the origin of a relationship as a method of measuring the impact of stigma on online daters, so there is no previous research to compare this finding to. It is notable that once again, a minority of participants indicated that they had ever had an online dating profile: only about one third of each sample and less than 100 participants in the full sample. Therefore, it may be that a large sample of online daters would be helpful in examining the impact of stigma. Nevertheless, it appears as though individuals who currently have an online dating profile are the most likely to lie about the origin of a relationship.

Hypothesis 5 involved two parts and investigated the proposed model of predicting lying about the origin of a relationship. It proposed that a higher level of shyness, a history of

involvement in a relationship with someone met online, higher levels of shame, and higher levels of stigma would predict lying about the origin of a relationship. The second part of the hypothesis stated that this model would be better than other models, namely the same model with shame removed as a predictor. Although this model was found to predict lying about the origin of a relationship in the full sample, the complete model did not appear to predict lying about the origin of a relationship very well. Indeed, only an endorsed history of involvement in a relationship with someone met online and public stigma played a role in predicting lying about the origin of a relationship. Public stigma contributed to the model in the expected way: as public stigma increased, lying about the origin of a relationship also increased. This finding makes sense in light of Hypothesis 4 (i.e., public stigma towards online dating increased the odds of lying about the origin of a relationship in the full sample). Additionally, it appears to support previous findings that when individuals perceive stigma from others, their own attitude about their online dating relationship is affected (Windermuth, 2004). Interestingly, the online dating findings were in the opposite direction than expected: individuals who had been involved in a relationship with someone they met online were less likely to lie about the origin of a relationship. Unfortunately this finding was not replicated in either of the smaller samples. Although this finding was opposite of what was hypothesized and seen in Hypothesis 4, the explanation may be in Corrigan's (2004) definition of public stigma. As previously mentioned, Corrigan defined public stigma as stereotyping, prejudice, and discrimination from the general public that is uninformed about a certain group. The nature of public stigma therefore appears to rely on the individual doing the stigmatizing to be uninformed about the characteristic in question. It would then be understandable that an individual who has more in-depth involvement with online dating feel less reason to hide it

from others. This finding may potentially be viewed as supporting a reduction in the stigma towards online dating as more people learn more about it and become more involved in it.

These findings were essentially replicated when examining a different predictive model of lying about the origin of a relationship that eliminated shame as a predictor. The full model was not superior to the second model, which is not surprising, given that shame did not contribute to the prediction of lying in the full model. It is interesting in light of the relationship between shame and stigma (Gilbert, 1992, 2002; Greenwald & Harder, 1998). Nevertheless, there has been research to suggest that experiencing shaming from others does not necessarily lead to internal experiences of shame (Gilbert, 1998; Lewis, 1998; Tantom, 1998). As Hypothesis 5 investigated characteristics that may influence an individual's experience of stigma towards online dating, it appears that shyness and shame may not play a contributory role. However, the results of Hypothesis 3 indicated that lying about the origin of a relationship may not be the best objective measure of the effect of stigma towards online dating. Therefore, the models were also examined for their ability to directly predict a stigma composite (i.e., the sum of the two stigma measures).

The models used to predict stigma yielded many more significant results than the models used to predict lying about the origin of a relationship. The full model (i.e., shyness, involvement in a relationship with someone met online, and shame measured by the PFQ-2 Shame Scale) predicted stigma in both the full and screened samples, indicating that this is a more robust finding than predicting lying about the origin of a relationship. In the full model, shame and involvement in a relationship with someone met online contributed to the model. Shame contributed to the model in the expected direction: as shame increased, stigma increased. This finding was expected based on the results of Hypothesis 2. Involvement with

someone met through an online dating relationship contributed to the model in the same way as the original analysis: online dating decreased stigma. When shame was omitted as a predictor, the model also predicted stigma. However, when shame was added as a predictor, the model was significantly improved. Interestingly, in the full sample, shyness contributed to the model when shame was omitted as a predictor, but did not when shame was added. This may be indicative of the shared characteristics between shyness and shame. Overall, these findings indicate that while shyness and shame may not play a role in predicting lying about the origin of a relationship, they do play some role in predicting stigma towards online dating. It is important to note that while the models were able to predict stigma, the full model accounted for about 20% of the variance in stigma in the full sample and 15% of the variance in the screened sample. Ergo, the model leaves much more unexplained than it accounts for.

The findings were slightly different in the screened sample. Models with and without shame were able to predict stigma, while adding shame as a predictor improved the predictive power of the model. When shame was omitted as a predictor, shyness did not contribute to the model as it had in the full sample. This indicates that the finding was not robust. As in the full sample, involvement in a relationship with someone met online and shame contributed to the model. It therefore appears reasonable to conclude that a history of dating someone met online reduces stigma towards online dating, while higher levels of experienced shame increase stigma. While shame and stigma have been linked in the literature (Gilbert 1992, 2002), this finding provides evidence that the two are related in the context of stigma towards online dating. As previously mentioned, it makes sense that increased contact with online dating would reduce stigma towards online dating, given that

the participants have had more of an opportunity to learn about the online dating environment.

Implications of the Findings

Online Dating. Although not the primary focus of the present study, results indicate some interesting findings about online dating in general. For example, it appears that online dating continues to grow in popularity. A larger percentage of individuals had ever visited an online dating website in the present study than had in 2006 (Madden & Lenhart). While under half of online daters (defined as someone who had visited an online dating website) had ever been on a date with someone they met online in 2006, just over half had in the present study. Only 17 percent of online daters had been involved in a relationship with someone they met through an online dating website in 2006, while a little over one third had in the present study. Virtually all individuals who had been involved in a relationship with someone they met through an online dating website indicated they had met the person face-to-face. This would appear to indicate that individuals using online dating websites are interested in using the sites to facilitate face-to-face relationships, and may provide further evidence to Madden and Lenhart's finding that a majority of online daters believed the Internet provides access to a wider pool of potential partners.

Online Dating and Stigma. In general, these results seem to have positive implications for online daters. Less than one quarter of all participants endorsed lying about how they met a partner, and less than half of these individuals indicated that the lie involved someone they met online. Fewer than half of participants indicated they would be more likely to lie about meeting someone online. Interestingly, while only about 20 percent of participants indicated that they had lied about the origin of a relationship, about 37 percent

indicated that they knew someone who had lied and about 40 percent indicated they would be more likely to lie about meeting someone online. This brings up the issue of accounting for a 15 to 20 percent difference in lying behaviors. The results seem to suggest that lying about the origin of a relationship does not have a strong association with shame or stigma.

Although there was some evidence to suggest that public stigma may play somewhat of a role in lying about the origin of a relationship, this finding was not robust enough to give much credence. Further research may be helpful in determining the relationship between online dating and lying about the origin of a relationship, as the results of this study cannot fully elucidate it. It may simply be that this is a phenomenon that not many people engage in and is a generally ineffective area to investigate exclusively in relation to online daters.

Indeed, only about 35 percent of liars indicated the lie involved someone they met through an online dating website. However, the approximately 40 percent of all participants who indicated they would be more likely to lie about meeting someone online would seem to suggest otherwise.

Results indicate across the full and screened samples that online daters who have been involved in a relationship with someone they met through an online dating website endorse less stigma towards online dating. Taken together these findings indicate that stigma towards online dating appears to be decreasing and indeed, more in-depth contact with online dating directly contributes to a reduction in stigma. At face value this finding appears to be common sense. However it is some of the first direct evidence to examine factors that influence a reduction in stigma towards online dating. Previous research has indicated that single Internet users who have friends and family who have used online dating websites were more likely to also use them (Sautter et al., 2010).

Additionally, this study is significant in that it examines potential psychological characteristics of individuals that may contribute to stigma towards online dating. Shame appears to play the largest role in predicting stigma towards online dating. The results were somewhat unclear as to the role of shyness in predicting stigma; the findings were not consistent across all samples and therefore require further investigation to determine how or if shyness contributes to stigma. The inconsistency of the ability of shyness' in predicting stigma may be related to the shared characteristics of shyness and shame. Although shyness affects motivations for engaging in computer-mediated communication (McKenna et al., 2002; Roberts et al., 2000; Stritzke et al., 2004; Weidman et al., 2012), it would make sense to assume that individuals who engage in online dating intend on eventually meeting potential partners face-to-face, and therefore the previous research in this area may not be as applicable.

Conceptual Model. Overall, the proposed conceptual model of this study was not supported. It appears that lying about the origin of a relationship is a not a good objective measure of stigma towards online dating and the proposed predictors were unable to contribute to the prediction of lying. There were some significant findings related to lying about the origin of a relationship (i.e., having an online dating profile increased the odds of lying), although these findings were not robust. It may be beneficial to further investigate this variable in future research related to online dating, although not as a measure of stigma. Fortunately, a modified version of the conceptual model in which lying about the origin of a relationship was removed and shyness, shame, and online dating were used to predict total stigma yielded some significant results. While the model indicated that involvement in a relationship with someone met online was related to a decrease in stigma and shame was

related to an increase in stigma, the model accounted for less than one quarter of the variance in total stigma towards online dating. While the predictive relationships discovered in this study do contribute to our understanding of lying about the origin of a relationship, it is also clear that there are other variables that contribute to the development of stigma towards online dating that were not included in the model and warrant further investigation.

Clinical Implications. Although the present study did not investigate a particularly clinical phenomenon, ties can be made between the results and clinical work. Shyness and shame were investigated for their potential contribution to stigma towards online dating. Shyness has been shown to increase risk for a diagnosable mental health disorder, especially social phobia (Cox et al., 2005). This finding was somewhat supported by significantly higher levels of shyness in the high BSI 18 group. With regard to stigma towards online dating, when the high BSI 18 group was removed from the analysis, the role of shyness in predicting stigma was no longer significant. This may indicate that shyness contributes to stigma only with highly shy individuals, or it may be indicative of other risk factors for psychiatric disorders contributing to stigma. Either way, the relationship between shyness and stigma towards online dating will require further investigation to fully elucidate this association.

With regards to shame, it has been suggested that shame is an issue for many who seek therapy (Gilbert, 1998; Harder, 1995; Tantam, 1998). Additionally, mental health patients recall more shame in their past (Gilbert & Gerlsma, 1999). A hostile parenting style also corresponded to increased shame in these individuals. As with shyness, these results were supported by the high BSI 18 group findings. Individuals in the high BSI 18 group endorsed significantly higher levels of shame (as measured by the PFQ-2 Shame Scale) than

individuals in the low BSI 18 group, indicating that higher levels of shame are associated with an increased risk for psychiatric disorders. From a clinical perspective, shame may be an area of intervention for therapy in order to decrease an individual's risk for ongoing or future mental health issues. Additionally, shame was predictive of stigma towards online dating in the present study. This indicates that individuals who experience higher levels of shame are also at increased risk for psychiatric disorder, and that shame is associated with other negative outcomes, such as stigma towards online dating. From a clinical perspective, individuals in therapy who engage in online dating and experience a high level of stigma may benefit from a discussion of their experience of shame. According to Windermuth (2004), individuals involved in online relationships were more conscious of stigma when receiving severely disapproving messages from family and friends, and the individual's level of stigma consciousness had the largest impact on his or her attitude toward the relationship. As a therapist, it would be beneficial to create an atmosphere in which a client involved in online dating did not feel stigmatized and was able to discuss potential shaming and disapproving messages received from family and friends about online dating.

The present study identified one protective factor for stigma towards online dating: previous involvement in a relationship with someone met through an online dating website. As previously mentioned, the definition of public stigma proposed by Corrigan (2004) cites a lack of information as a contributory factor. Therefore it is common sense that in-depth involvement with online dating would lead to a reduction in stigma. From a clinical perspective, it may be helpful for clients experiencing high levels of stigma towards online dating to be connected with supportive networks in the community or to be encouraged to build friendships with other online daters to reduce the impact of stigma.

Limitations and Future Research

There are several limitations to the present study that should be considered. As noted before beginning the study, Internet users are a somewhat of a self-selected group (e.g., significantly higher percentages of Caucasians, young adults, college graduates, higher income; Sautter et al., 2010). By using the Internet to recruit participants and for survey completion, the available participants would also be self-selected group. The findings of the present study were therefore predicted to be limited in generalizability. However, research has also shown that use of online dating websites is best predicted by factors that predict Internet use in general (Sautter et al.) and it was determined that the limited sample would be appropriate to investigate online daters, as they are also a limited and self-selected group. Additionally, online daters were comfortable enough with the Internet for using online dating websites, and it seemed logical that they would also be comfortable completing surveys online. As a result, the results of this study should likely not be generalized beyond Internet users. Interestingly, participants in this study were about three quarters female. Research has shown that about equivalent percentages of men and women use the Internet (Sautter et al.) and online dating websites (Madden & Lenhart, 2006). This difference may be due to the subject matter being a more traditionally feminine area of interest and would seem to further limit the generalizability of the findings to women. Prior to beginning the study, it was also determined that homosexual participants would not be actively recruited as research as indicated that homosexual individuals use online dating for different reasons than heterosexual individuals (Lever et al., 2008). The results of this study should not be generalized to homosexual individuals. Another demographic that was not considered was transgender individuals, as there did not seem to be available literature on transgender online

dating behaviors. The demographic questionnaire did not include an area to indicate if a participant was transgender, and therefore it is unknown if any transgender individuals participated in this study. The results of this study should not be generalized to transgender individuals. Future research would be necessary to determine if and how homosexual and transgender individuals are affected by stigma related to online dating.

In terms of further demographic limitations, the participants of this study were generally from urban and suburban areas in the Midwest and Northeast regions of the United States. This makes sense as the university associated with this study is based in the urban Midwest. The results of this study are most generalizable to individuals living in these areas. Further research on stigma associated with online dating on other areas of the United States and also internationally would be helpful in determining not only what factors are related to stigma, but also how these factors might differ by location and culture.

Aside from the demographic limitations of using the Internet to collect data, additional limitations arise. While it can be hoped that participants were honest in their presentation of themselves, the anonymity of the Internet may have increased the likelihood that participants portrayed themselves in a dishonest way or responded to the survey more than once in order to be entered in the gift card drawing multiple times. It is unknown if this occurred. Further concerns about the honesty of responses are brought up by the fact that a certain percentage of the participants indicated that they had lied on at least one occasion and about 40 percent indicated they would be likely to lie about at least one behavior. It is possible that this may be indicative of a larger pattern of dishonesty, in which case none of their responses would be able to be trusted. However, as further information about lying was not collected as part of this study, no further conclusions can be drawn as to the relative honesty

of the participants. This may be a potential area for future research related to lying about the origin of a relationship.

While there are limitations with any study, the data collection and statistical analysis phases of this study identified a variety of additional limitations that have already been discussed to some degree. For example, it was discovered after the data collection had been started that participants were only able to select one online dating website they had used. The Online Dating Site Use/Attitudes Questionnaire asked if the participant had ever had an online dating profile either currently, in the past, or never, and then asked the participant to indicate which site. Individuals who had or were currently using more than one online dating website were unable to indicate that this was the case. As the specific online dating website used was not a primary variable in the present study's statistical analyses, it is likely that this has limited bearing on the final results. However, it is a point to be considered for future research related to online daters. After the data collection had been completed, it became apparent that many online daters had chosen the "Other" category in terms of which online dating site they used, and indicated they were using online dating apps such as Tinder. This study did not investigate the use of online dating apps and it is unknown if there are significant differences between online dating website users and online dating app users. This would be an area for further research.

Another logistical issue related to the online survey data collection was that participants were allowed to continue with the survey without completing every item of the TOSCA-3. This was quite unfortunate as it was perhaps the most complex and time-consuming measure used in the study, and would have provided more information on how shame and stigma are related, and provided more information about potential differences

between characteristics associated with shame and shame-proneness. Although a certain number of participants' responses were usable to the point that all items necessary to calculate the TOSCA-3 Shame Scale were complete, this number was less than half of all participants. It would be beneficial to repeat the present study if there were a way to ensure that all items on the TOSCA-3 were completed before the participant moved on to the next measure.

As previously mentioned, one of the screening measures employed by the present study (BSI 18) was too sensitive. The measure is intended as a screener to identify individuals who are at high risk for psychiatric disorders based on their reported symptoms. It was therefore unexpected when one quarter of all participants were screened out based on the BSI 18 manual's (Derogatis, 2000) suggested Global Severity Index (GSI) T-score cutoff for positive risk for psychiatric disorders. It is also worth noting that this cutoff score is based on a community norm sample. Because of the high number of participants screened out by this measure, further analysis was done to determine if these individuals differed in any way from the individuals below the cutoff score. Significant differences were found on the shyness, shame (as measured by the PFQ-2 Shame Scale) and stigma measures, indicating that the individuals with BSI 18 GSI scores above the cutoff experienced higher levels of these characteristics, which in turn could influence the outcome of the statistical analyses for this study. The high BSI 18 group also represented a somewhat different demographic sample than the low group, although it is unclear how these demographics may influence the BSI 18 scores. Interestingly, the high and low BSI 18 groups did not respond differently to questions about the online dating behaviors, indicating that risk for psychopathology may not influence behavior in this area. The large number of individuals screened out by the BSI 18

raises concerns about the mental health of the participants responding to this study. The most recent data indicates that about 19 percent of adults in the United States met DSM-IV criteria for a mental, behavioral, or emotional disorder in 2012 (Substance Abuse and Mental Health Services Administration, 2013). It could be argued that not all individuals who have been determined to be at high risk for developing psychiatric disorders go on to develop a diagnosable disorder. Following this line of reasoning, it may indeed be that 25 percent of individuals are at high risk for developing a psychiatric disorder. However, the screener was initially suggested as a way to determine if psychopathology affected online dating behaviors. As results indicate that it does not, the overall sum of the BSI 18 screening process may have been misguided. One unintended positive aspect of the BSI 18 screening process was that it created two samples that were analyzed separately, creating a built in method of testing the robustness of all results. In general however, it would be helpful to further investigate the effect of psychopathology on online dating behaviors in order to conclusively rule it out as influential.

Finally, and perhaps most importantly, a majority of participants in this study had not engaged in the behaviors that the study sought to measure. This entails two areas: the small percentage of participants who had participated in online dating beyond simply viewing an online dating website and the even smaller number of participants who had ever lied about the origin of a relationship. These two areas will be addressed in this order.

Although a little less than half of participants indicated they had visited an online dating website, only about one third indicated they had ever had a profile on an online dating website, one quarter indicated they had been on a date with someone met online, and around 15 percent indicated they had ever been in a relationship with someone met through an online

dating website. This corresponded to about 50 participants in the full sample and 28 participants in the screened sample who had ever been in a relationship with someone met through an online dating website and about 250 in the full sample and about 150 in the screened sample who had not. This created very unequal groups for comparison. Attempts were made to advertise on online dating websites (as well as social media sites not specifically aimed at dating), but this did not appear to be a beneficial way to recruit participants. It appears that the number of Internet users who have ever visited an online dating website has increased a great deal (about 40% now compared to 11% in 2006; Madden & Lenhart), but the majority of individuals still have not visited or actively use online dating websites. As previously mentioned, it was known before the study began that the target population was a limited group. Therefore, the number of online daters in the study may be representative of the number of online daters in the population, although there is limited data available for direct comparisons. Future research on online dating will benefit from targeting online daters directly and perhaps separately recruiting a control group of non-online daters for comparison. In general, the study focused on comparing individuals who had lied about the origin of a relationship versus those who had not, and not directly on online daters versus individuals with limited or no contact with online dating websites. This would be an area for future research and would obviously be beneficial in further understanding any differences between online daters and non-online daters beyond factors related to Internet use.

Now on to the most critical limitation of this study: a very small percentage of individuals had ever lied about the origin of a relationship. Additionally, for a minority of these individuals, the lie involved someone they met through an online dating website. This

creates a significant problem, as the lying variable was the main focus of the study. As previously stated, the small number of participants who report lying seems to suggest that lying about the origin of a relationship is a phenomenon that occurs rarely, and therefore does not warrant further study. At the very least, it presents a difficulty for study in that samples would be small, limiting the power of these studies. For the present study, the small percentage of individuals who had lied about the origin of a relationship creates a question about the validity of the results related to the lying variable due to the small sample size. The study would need to be repeated with a larger number of individuals who had lied in order to determine the validity of these results. However, lying about the origin of a relationship may not be an informative variable in an investigation such as this. After further consideration, it was determined that lying about the origin of a relationship was not a good measure of stigma and the hypothesized model was re-analyzed for its ability to predict stigma.

Appendix A: Consent Form

*RESEARCH PROJECT DESCRIPTION***Title of Study: Shame and Shyness in Relation to Dating**

My name is Hailey Hegland, MA. I am a graduate student in the Department of Psychology at the University of Detroit Mercy.

I have asked you to agree to be a volunteer in some research I plan to conduct. Before I can accept your consent, I want to make known to you the following information pertaining to the project.

- 1. Explanation of the Purpose.** You are being asked to be in a survey research study on personality characteristics and how they relate to attitudes about online dating. To better understand how personality characteristics such as shyness and shame-proneness relate to attitudes about online dating, this study is seeking participants who have and have not used online dating websites. The questions in this study are meant to gather information and not to confer judgment or influence attitudes in any way.
- 2. Explanation of the Procedures.** If you take part in this research study, you will be asked to complete several questionnaires that should take about 25 minutes to finish. This is a one-time participation. At the conclusion of the surveys, you will be provided with a link to a website where overall results of the study will be displayed when they are available (likely around summer 2014).
- 3. Expected Risks.** There are no attendant discomforts or risks reasonably to be expected.
- 4. Expected Benefits.** As a participant in this research study, there are no direct benefits for you; however, information from this study may benefit other people now or in the future.
- 5. Confidentiality.** All information collected about you during the course of this study will be anonymous. There will be no way for anyone to identify who completed the questionnaires at any point during the study. If you desire to be entered in the optional gift card drawing at the conclusion of the survey, you will be asked to provide a valid email address. This information will be collected through a separate survey which will ensure that your identifying information and responses cannot be connected.
- 6. Freedom To Withdraw Consent.** If you consent to be a volunteer in this research project, you are nonetheless free to withdraw your consent and discontinue participation at any time without prejudice to you. You should also understand that the investigator has the right to withdraw you from the research project at any time. For example, if you do not fully complete all questionnaires, you may be withdrawn from the study. Once you have begun the survey you may withdraw by discontinuing the survey or choosing not to submit your results.

7. **Compensation.** All participants who complete the surveys will have the option to enter to win one of three \$50 gift cards. UDM students will be provided with a letter to present to psychology professors for potential extra credit for research participation.
8. **Offer To Answer Questions.** I hereby offer to answer any questions you might wish to ask concerning the procedures used in this research at this time. Furthermore, I may be reached at heglanha@udmercy.edu. If you have questions concerning your rights as a volunteer, you may contact Dr. Elizabeth M. Hill, Chair, UDM Institutional Review Board, at hillelm@udmercy.edu.

Yes, I give my permission for the future use of data obtained in this study contingent on the preceding conditions.

No, I do not give my permission for the future use of data from this study.

I hereby state:

1. I have read all of the statements above pertaining to the research project entitled Shame and Shyness in Relation to Dating and I understand them.
2. I hereby consent that I am at least 18 and agree to be a volunteer in this research project.

By checking this box I am indicating I agree with the statements above

Appendix B: Demographics Questionnaire

Demographics Questionnaire.

Sex: Male Female

Age: (Dropdown menu)

Race/Ethnicity:

- White
 Black/African American/African Origin
 American Indian/Alaska Native
 Hispanic
 Asian American/Asian Origin/Pacific Islander
 Biracial/Multiracial
 Other

Sexual Orientation:

- Heterosexual
 Gay
 Lesbian
 Bisexual
 Other

Current Relationship Status:

- Single
 Married
 In a relationship
 Divorced
 Widowed

Location:

- Urban
 Suburban
 Rural

Country (Dropdown menu)

If U.S., Region:

- Northeast
 Southeast
 Midwest
 Southwest
 West

Appendix C: Online Dating Site Use/Attitudes Questionnaire

Online Dating Site Use/Attitudes Questionnaire.

1. Have you ever visited an online dating website? ___Yes ___No
2. Have you ever or do you currently have a profile on an online dating website? ___Yes ___No
 - a. If so, which site? _____
3. Have you ever gone on a date with someone you met through an online dating website? ___Yes ___No
4. Have you ever been in a relationship with someone you met through an online dating website? ___Yes ___No
 - a. If so, have you meet this person face to face? ___Yes ___No
5. Have you ever lied about or made up a story about how you met a romantic partner? ___Yes ___No
 - a. If so, did this involve someone you met through an online dating website? ___Yes ___No
 - b. If not, would you be more likely to lie about meeting someone online? ___Yes ___No
6. Do you have friends who have lied about meeting someone online? ___Yes ___No

Appendix D: Revised Cheek Buss Shyness Scale (RCBSS-13)

Revised Cheek Buss Shyness Scale (RCBSS-13; Cheek & Briggs, 1990).

Read each item carefully and decide to what extent it is characteristic of you feelings and behavior. Fill in the blank next to each item by choosing a number from the scale printed below.

1 = very uncharacteristic or untrue, strongly disagree.

2= uncharacteristic

3 = neutral

4 = characteristic

5 = very characteristic or true, strongly agree

- _____ 1. I feel tense when I'm with people I don't know well.
- _____ 2. I am socially somewhat awkward.
- _____ 3. I do not find it difficult to ask other people for information.
- _____ 4. I am often uncomfortable at parties and other social functions.
- _____ 5. When in a group of people, I have trouble thinking of the right things to talk about.
- _____ 6. It does not take me long to overcome my shyness in new situations.
- _____ 7. It is hard for me to act natural when I am meeting new people
- _____ 8. I feel nervous when speaking to someone in authority.
- _____ 9. I have no doubts about my social competence.
- _____ 10. I have trouble looking someone right in the eye.
- _____ 11. I feel inhibited in social situations.
- _____ 12. I do not find it hard to talk to strangers.
- _____ 13. I am more shy with members of the opposite sex.

Appendix E: Personal Feelings Questionnaire-2 (PFQ-2)

Personal Feelings Questionnaire-2 (PFQ-2; Harder, Culter & Rockhart, 1992).

For each of the following listed feelings, to the left of the item number, please place the number from 0 to 4, reflecting how common the feeling is for you.

4 = you experience the feelings continuously or almost continuously

3 = you experience the feeling frequently but not continuously

2 = you experience the feeling some of the time

1 = you experience the feeling rarely

0 = you never experience the feeling

_____ 1. Embarrassed

_____ 2. Mild guilt

_____ 3. Feeling ridiculous

_____ 4. Worrying about hurting or injuring someone

_____ 5. Self-consciousness

_____ 6. Feeling humiliated

_____ 7. Intense Guilt

_____ 8. Feeling "stupid"

_____ 9. Regret

_____ 10. Feeling "childish"

_____ 11. Feeling helpless, paralyzed

_____ 12. Feelings of blushing

_____ 13. Feeling you deserve criticism for what you did

_____ 14. Feeling laughable

_____ 15. Feeling disgusting to others

_____ 16. Remorse

Appendix F: Test of Self-Conscious Affect – 3 (TOSCA-3)

Test of Self-Conscious Affect – 3 (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000).

Below are situations that people are likely to encounter in day-to-day life followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask that you rate *all* responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

For example:

You wake up early on Saturday morning. It's cold and rainy outside.

- a. You would telephone a friend to catch up on the news.

1—2—3—4—5

not likely very likely

- b. You would take the extra time to read the paper.

1—2—3—4—5

not likely very likely

- c. You would feel disappointed that it's raining.

1—2—3—4—5

not likely very likely

- d. You would wonder why you woke up so early.

1—2—3—4—5

not likely very likely

In the above example, I've rated *all* of the answers by circling a number. I circled a "1" for answer (a) because I wouldn't want to wake up a friend very early on a Saturday morning – so its not likely that I would do that. I circled a "5" for answer (b) because I almost always read the paper if I have time in the morning (very likely). I circled a "3" for answer (c) because for me its about half and half. Sometimes I would be disappointed about the rain and sometimes I wouldn't – it would depend on what I had planned. And I circled a "4" for answer (d) because I would probably wonder why I had awakened so early.

Please do not skip any items – rate all responses.

1. You make plans to meet a friend for lunch. At 5 0'clock, you realize you stood your friend up.

- a. You would think: "I am inconsiderate."

1—2—3—4—5

not likely very likely

- b. You would think: "Well, my friend will understand."

1—2—3—4—5

not likely very likely

- c. You'd think you should make it up to your friend as soon as possible

1—2—3—4—5

not likely very likely

- d. You would think: "My boss distracted me just before lunch."
 1—2—3—4—5
 not likely very likely
2. You break something at work and then hide it.
- a. You would think: "This is making me anxious. I need to either fix it or get someone else to."
 1—2—3—4—5
 not likely very likely
- b. You would think about quitting.
 1—2—3—4—5
 not likely very likely
- c. You would think: "A lot of things aren't made very well these days."
 1—2—3—4—5
 not likely very likely
- d. You would think: "It was only an accident."
 1—2—3—4—5
 not likely very likely
3. You are out with friends one evening, and you're feeling especially witty and attractive. Your best friend's spouse particularly enjoys your company.
- a. You would think: "I should have been aware of what my best friend was feeling."
 1—2—3—4—5
 not likely very likely
- b. You would be happy with your appearance and personality.
 1—2—3—4—5
 not likely very likely
- c. You would feel pleased to have made such a good impression.
 1—2—3—4—5
 not likely very likely
- d. You would think your best friend should pay attention to his/her spouse.
 1—2—3—4—5
 not likely very likely
- e. You would probably avoid eye contact for a long time.
 1—2—3—4—5
 not likely very likely
4. At work, you wait until the last minute to plan a project, and it turns out badly
- a. You would feel incompetent.
 1—2—3—4—5
 not likely very likely
- b. You would think: "There are never enough hours in the day."
 1—2—3—4—5
 not likely very likely
- c. You would feel: "I deserve to be reprimanded for mismanaging the project."
 1—2—3—4—5
 not likely very likely

- d. You would think: "what's done is done."
1—2—3—4—5
not likely very likely
5. You make a mistake at work and find out a coworker is blamed for the error.
- a. You would think the company did not like the coworker.
1—2—3—4—5
not likely very likely
- b. You would think: "Life is not fair."
1—2—3—4—5
not likely very likely
- c. You would keep quiet and avoid the coworker.
1—2—3—4—5
not likely very likely
- d. You would feel unhappy and eager to correct the situation.
1—2—3—4—5
not likely very likely
6. For several days you put off making a difficult phone call. At the last minute you make the call and are able to manipulate the conversation so that it all goes well.
- a. You would think: "I guess I'm more persuasive than I thought."
1—2—3—4—5
not likely very likely
- b. You would regret that you put it off.
1—2—3—4—5
not likely very likely
- c. You would feel like a coward.
1—2—3—4—5
not likely very likely
- d. You would think: "I did a good job."
1—2—3—4—5
not likely very likely
- e. You would think you shouldn't have to make calls you feel pressured into.
1—2—3—4—5
not likely very likely
7. While playing around, you throw a ball and it hits your friend in the face.
- a. You would feel inadequate that you can't even throw a ball.
1—2—3—4—5
not likely very likely
- b. You would think maybe your friend needs more practice at catching.
1—2—3—4—5
not likely very likely
- c. You would think: "It was just an accident."
1—2—3—4—5
not likely very likely
- d. You would apologize and make sure your friend feels better.
1—2—3—4—5
not likely very likely

8. You recently moved away from your family, and everyone has been very helpful. A few times you needed to borrow money, but you paid it back as soon as you could.

a. You would feel immature.

1—2—3—4—5

not likely very likely

b. You would think: "I sure ran into some bad luck."

1—2—3—4—5

not likely very likely

c. You would think: "I am a trustworthy person."

1—2—3—4—5

not likely very likely

d. You would be proud that you repaid your debts.

1—2—3—4—5

not likely very likely

9. You are driving down the road and you hit a small animal.

a. You would think the animal shouldn't have been in the road.

1—2—3—4—5

not likely very likely

b. You would think: "I am terrible."

1—2—3—4—5

not likely very likely

c. You would think: "well, it was an accident."

1—2—3—4—5

not likely very likely

d. You'd feel bad you hadn't been more alert driving down the road.

1—2—3—4—5

not likely very likely

10. You walk out of an exam thinking you did extremely well. Then you find out you did poorly.

a. You would think: "well, it's just a test."

1—2—3—4—5

not likely very likely

b. You would think: "The instructor doesn't like me."

1—2—3—4—5

not likely very likely

c. You would think: "I should have studied harder."

1—2—3—4—5

not likely very likely

d. You would feel stupid.

1—2—3—4—5

not likely very likely

11. You and a group of coworkers worked very hard on a project. Your boss singles you out for a bonus because the project was a success.

a. You would feel the boss is rather short-sighted.

1—2—3—4—5

not likely very likely

- b. You would feel alone and apart from your colleagues.
1—2—3—4—5
not likely very likely
- c. You would feel your hard work had paid off.
1—2—3—4—5
not likely very likely
- d. You would feel competent and proud of yourself.
1—2—3—4—5
not likely very likely
- e. You would feel you should not accept it.
1—2—3—4—5
not likely very likely
12. While out with a group of friends, you make fun of a friend who's not there.
- a. You would think; "It was all in fun; its harmless."
1—2—3—4—5
not likely very likely
- b. You would feel small...like a rat.
1—2—3—4—5
not likely very likely
- c. You would think that perhaps that friend should have been there to defend him/herself.
1—2—3—4—5
not likely very likely
- d. You would apologize and talk about that person's good points.
1—2—3—4—5
not likely very likely
13. You make a big mistake on an important project at work. People were depending on your, and your boss criticizes you.
- a. You would think your boss should have been more clear about what was expected of you.
1—2—3—4—5
not likely very likely
- b. You would feel like you wanted to hide.
1—2—3—4—5
not likely very likely
- c. You would think: "I should have recognized the problem and done a better job."
1—2—3—4—5
not likely very likely
- d. You would think: "well, nobody's perfect."
1—2—3—4—5
not likely very likely
14. You volunteer to help the local Special Olympics for handicapped children. It turns out to be frustrating and time-consuming work. You think seriously about quitting, but then see how happy the ids are.

- a. You would feel selfish, and you think you are basically lazy.
1—2—3—4—5
not likely very likely
- b. You would feel you were forced into doing something you did not want to do.
1—2—3—4—5
not likely very likely
- c. You would think: “I should be more concerned about people who are less fortunate.”
1—2—3—4—5
not likely very likely
- d. You would feel great that you had helped others.
1—2—3—4—5
not likely very likely
- e. You would feel very satisfied with yourself.
1—2—3—4—5
not likely very likely
15. You are taking care of your friend’s dog while on vacation, and the dog has run away.
- a. You would think: “I am irresponsible and incompetent.”
1—2—3—4—5
not likely very likely
- b. You would think your friend must not take very good care of the dog or it wouldn’t have run away.
1—2—3—4—5
not likely very likely
- c. You would vow to be more careful next time.
1—2—3—4—5
not likely very likely
- d. You would think your friend could just get a new dog.
1—2—3—4—5
not likely very likely
16. You attend your coworker’s housewarming arty and spill red wine on a new cream-colored carpet, but you think no one notices.
- a. You think your coworker should have expected some accidents at such a big party.
1—2—3—4—5
not likely very likely
- b. You would stay late to help clean up after the party.
1—2—3—4—5
not likely very likely
- c. You would wish you were anywhere but at the party.
1—2—3—4—5
not likely very likely
- d. You would wonder why your coworker chose to serve red wine with a new light carpet.
1—2—3—4—5
not likely very likely

Appendix G: Self-Stigma of Online Dating Scale (SSODS)

Self-Stigma of Online Dating Scale (SSODS). Adapted from SSOSHS (Vogel, Wade, & Haake, 2006).

Please rate the degree to which each item describes how you might react if you went to an online dating website for help finding a romantic partner.

1	2	3	4	5
Strongly Disagree		Agree and Disagree Equally		Strongly Agree

1. I would feel inadequate if I used to an online dating website for help finding a romantic partner.
2. My self-confidence would NOT be threatened if I used online dating websites.
3. Using online dating websites would make me feel less intelligent.
4. My self-esteem would increase if I used online dating websites.
5. My view of myself would not change just because I made the choice to use an online dating website.
6. It would make me feel inferior to use an online dating website for help with finding a romantic partner.
7. I would feel okay about myself if I made the choice to use an online dating website.
8. If I used an online dating website, I would be less satisfied with myself.
9. My self-confidence would remain the same if I used an online dating website because I could not meet a romantic partner through more traditional methods.
10. I would feel worse about myself if I could not find a romantic partner without the use of an online dating website.

Appendix H: Public Stigma Scale for Online Dating (PSSOD)

Public Stigma Scale for Online Dating (PSSOD). Adapted from SSRPH (Komiya, Good, & Sherrod, 2000).

Please rate your level of agreement with the following statements.

0	1	2	3
Strongly Disagree			Strongly Agree

1. Using an online dating website to find a romantic partner carries a social stigma.
2. It is a sign of personal weakness or inadequacy to use an online dating website for help finding a romantic partner.
3. People will see a person in a less favorable way if they come to know that he/she has used an online dating website.
4. It is advisable for a person to hide the fact that he/she uses online dating websites.
5. People who use online dating websites are less well liked than others.

Appendix I: Brief Symptom Inventory 18 (BSI 18)

Brief Symptom Inventory 18 (BSI 18; Derogatis, 2000).

Below is list of problems people sometimes have. Read each one carefully and circle the number of the response that best describes **HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS INCLUDING TODAY.**

0 = Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely

HOW MUCH WERE YOU DISTRESSED OR BOTHERED BY THE ITEMS BELOW IN THE LAST 7 DAYS INCLUDING TODAY:

- | | | | | | |
|--|---|---|---|---|---|
| 1. Faintness or dizziness | 0 | 1 | 2 | 3 | 4 |
| 2. Feeling no interest in things | 0 | 1 | 2 | 3 | 4 |
| 3. Nervousness or shakiness inside | 0 | 1 | 2 | 3 | 4 |
| 4. Pains in heart or chest | 0 | 1 | 2 | 3 | 4 |
| 5. Feeling lonely | 0 | 1 | 2 | 3 | 4 |
| 6. Feeling tense or keyed up | 0 | 1 | 2 | 3 | 4 |
| 7. Nausea or upset stomach | 0 | 1 | 2 | 3 | 4 |
| 8. Feeling blue | 0 | 1 | 2 | 3 | 4 |
| 9. Suddenly scared for no reason | 0 | 1 | 2 | 3 | 4 |
| 10. Trouble getting your breath | 0 | 1 | 2 | 3 | 4 |
| 11. Feelings of worthlessness | 0 | 1 | 2 | 3 | 4 |
| 12. Spells of terror or panic | 0 | 1 | 2 | 3 | 4 |
| 13. Numbness or tingling in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 14. Feeling hopeless about the future | 0 | 1 | 2 | 3 | 4 |
| 15. Feeling so restless you couldn't sit still | 0 | 1 | 2 | 3 | 4 |
| 16. Feeling weak in parts of your body | 0 | 1 | 2 | 3 | 4 |
| 17. Thoughts of ending your life | 0 | 1 | 2 | 3 | 4 |
| 18. Feeling fearful. | 0 | 1 | 2 | 3 | 4 |

Appendix J: Marlow-Crowne Social Desirability Scale 1(10) [M-C 1(10)]

Marlow-Crowne Social Desirability Scale 1(10) [M-C 1(10); Strahan & Gerbasi, 1972].

1. I'm always willing to admit it when I make a mistake (T)
2. I always try to practice what I preach (T)
3. I never resent being asked to return a favor (T)
4. I have never been irked when people expressed ideas very different from my own (T)
5. I have never deliberately did something to hurt someone's feelings (T)
6. I like to gossip at times (F)
7. There have been occasions when I took advantage of someone (F)
8. I sometimes try to get even rather than forgive and forget (F)
9. At times I have really insisted on having things my own way (F)
10. There have been occasions when I felt like smashing things (F)

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ABSTRACT

SHYNESS AND SHAME IN ONLINE DATING

By

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Major: Psychology (Clinical)

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The Internet has become an increasingly popular way to form new relationships. Previous research has examined the demographics of individuals who use online dating sites and personality characteristics of these individuals, but few studies have examined how these individuals view using online dating sites to find partners. The presence of a stigma towards online dating has been demonstrated in previous research, although there has been little investigation into the factors that contribute to this stigma. This study examined the potential forces behind that stigma, specifically shyness and shame. Of particular interest was how shyness, shame, and stigma towards online dating contribute to an unwillingness to disclose that a relationship began online.

It was hypothesized that shyness would be related to shame and that shame would be related to stigma. It was expected that individuals experiencing higher levels of stigma would be more likely to lie about the origin of a relationship and that individuals who had created online dating profiles would also be more likely to lie about the origin of a relationship. Finally, it was hypothesized that individuals who experienced higher levels of shyness and shame, had been involved in relationships that began online, and perceived higher levels of

stigma would be more likely to lie about the origin of a relationship. Self-report surveys measuring these constructs were administered through an online survey website, therefore sampling from an Internet using population.

Results revealed partial support for these hypotheses. In general, it appears that lying about the origin of a relationship is not an appropriate objective measure of how individuals are affected by stigma towards online dating and the implications of this are discussed. Support was increased for stigma towards online dating in that individuals who had created an online dating profile endorsed more stigma than those who had not. However, further analysis indicated that involvement in a relationship that began online directly contributed to a decrease in stigma towards online dating while higher levels of shame contributed to an increase in stigma. Limitations and suggestions for future research are discussed.

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