The role of sex differences in detecting deception in computer-mediated communication in English

Anna Kuzio[*1]

[1]University of Zielona Góra, Poland

*Corresponding author: a.kuzio@uz.zgora.pl

Abstract

While deception seems to be a common approach in interpersonal communication, most examination on interpersonal deception sees the sex of the interlocutor as unconnected with the capability to notice deceptive messages. This research studies the truth and deception detection capability of both male and female receivers when replying to both true and deceptive messages from both male and female speakers. The outcomes indicate that sex may be a significant variable in comprehending the interpersonal detection probabilities of truth and of lies. An interaction of variables including the speakers' sex, receivers' sex, and whether the message appears to be truthful or deceptive is created to relate to detection capability.

Keywords: computer-mediated communication, interpersonal communication, deception

1. INTRODUCTION

This paper aims at analysing the deception detection capability of both male and female receivers when replying to both true and deceptive messages from both male and female speakers in computer-mediated communication. It is done by investigating the relationship between sex of the source and the sex of the receiver in their capability to notice truthful statements and deceits.

The paper offers some insight into deceptive communication in the field of interpersonal deception detection. Many studies have discussed possible correlates of individuals'' aptitudes in lie detection and why their accuracy at recognizing liars seems to be a little better than chance (cf. Kuzio 2018). Among the offered studies, variables such as the receivers' age, the communication media, and their environment have been given the most attention. However, it is undeniable that the effects of sex differences have been constantly overlooked. The first

indication of such an oversight is that the total number of studies with sex differences as a focus in deception detection is extremely inadequate in communication research. The other explanation for this oversight is that present studies on sex differences and the effects of deception detection typically come to mixed outcomes. A comprehensive review of studies in deceptive communication and the issue of this oversight on sex differences in deception detection will be presented in this paper.

2. THE CONCEPT OF DECEPTION

Deception is seen as an adaptive behavior to natural selection (Knapp, Hart and Dennis, 1974) and is essential for human survival (Kraut, 1980). Other scholars are certain that lying is a common strategy often used in interpersonal communication for purposes such as: obtaining goods and services, developing and managing satisfying relationships, or generating and managing a desired self-image (Zuckerman, DePaulo and Rosenthal, 1981). Even though deception is typically a behavior that social references see as averse (cf. Sanchez-Pages and Vorsatz, 2008), it has been claimed that deception as such is not characteristically unethical or immoral (Boush, Friestad and Wright, 2009). It is the reason behind a specific fib that regulates whether that lie is tolerable or not (Seiter, Bruschke and Bai, 2002). The outcomes of this study specify that the most suitable lies are lies for affiliation, followed by lies to benefit others, lies to defend privacy, lies to circumvent conflict, lies to protect self, impression management, lies to benefit self without harming others. The two least tolerable types of lies are lies to benefit self while harming others and lies of malice (Inglehart, Basanez and Moreno, 1998). In the study by Turner et al. (1975), it was observed that most lies tend to be white lies that are told to save face (27.7%) or to circumvent probable tension and conflict (22.2%). White lies are lies that are told for a "good reason". This inclination was also noticed in the research of DePaulo, Kirkendol, Tang, and O'Brien (1988) who were confident that everyday lies are typically ordinary ones, with little or no serious significances on both sides.

Concerning the universal occurrence of deception, Turner et al. (1975) stated that 62% of the statements in ordinary general conversations have some form of data control that could be classified as deceptive. DePaulo et al. proposed that individuals tell about two lies per day on average and that approximately 20% to 33% of our everyday interactions are deceptive (DePaulo, Kashy, Kirbendol, Wyer and Epstein, 1996). These data were supported in at least two other empirical studies (George and Robb, 2008; Hancock, Thom-Santelli and Ritchie, 2004). With a comparable methodology, Hancock et al. (2004) found that 26% of our daily communication involves some form of deception, while George and Robb (2008) observed that 22% to 25% of our everyday communication tends to be deceptive. Other than in ordinary life settings, research in business showed that 25%-67% of job applicants fabricate their resumes and try to explain those fabrications during job interviews (Prater and Kiser, 2002).

As opposed to concentrating on finding the amount of deceptive communication in real life, some researchers have decided to study the occurrence of deception by looking into the occurrence of lies one individual tells per day. As stated above, DePaulo et al. (1996) noted approximately two lies per day per person. Data from many studies on the occurrence of lies

per person per day fall near this number. Hample (1980) stated that individuals are prone to lie 13.3 times per week on average which is 1.9 times per day. Camden, Motley, and Wilson (1984) concentrated exclusively on white lies which average 16 times over a two-week period, that is 1.14 white lies per day. Serota, Levine, and Boster (2010) mentioned an average of 1.65 lies per 24-hour period. Along with these studies with comparatively close results, other studies with diverse methods have shown very different numbers. For instance, Feldman, Forrest, and Happ (2002) noticed a mean of 1.75 lies told by each subject within a 10-minute conversation. Feldman et al.'s (2002) experiment proposed 10.5 lies per hour or 84 lies per 8-hour day. Although there is discrepancy across the number of lies individuals tell in a day, it is nonetheless consistent that deception is certainly common in life.

With deception so omnipresent in ordinary life, it might be practical to suppose that individuals develop a competence in perceiving liars since they have plenty of exposure to deceptive communications from both sides, either as liars or receivers of lies in everyday life. However, this does not appear to be the case. It is rather paradoxical to perceive that with deceptive behaviors so often practiced, few deceivers are detected. A meta-analysis of over 200 studies on lie detection proposed that the universal correctness of individuals as lie detectors is only somewhat better than chance: 54% in noticing both truth and lies accurately, 47% accuracy in lie detection, and 61% truth detection accuracy in a baseline of 50% lie situations (Bond and DePaulo, 2006). While Ekman et al. (Ekman, O'Sulliva and Frank, 1999) proposed that law enforcement officials are prone to be superior lie detectors, DePaulo et al (1993) observed no important difference in deception detection accuracy between federal law enforcement and college students which maintains the results of Aamodt and Custer (2006). To clarify why individuals can only do somewhat better than chance in lie detection, scholars have concentrated on numerous factors that they are confident might correlate with individuals' capability in recognizing liars. Some claim that the main reason for individuals'' low accuracy in lie detection is the hard-wired truth-bias in their mental process (Levine and Kim, 2010; Levine, Kim, Park and Hughes, 2006). Others study definite variables in deceptive communication and state that one's personality, age, communication media, and environment could all have played important roles when individuals are involved in deception (Ekman and O'Sullivan, 1991; Levine, Park and McCornack,2006).

3. MEDIUM AND DECEPTIVE COMMUNICATION

As stated above, numerous studies have discussed probable correlates of individuals'' abilities in lie detection and why their correctness at catching liars is little better than chance. Among the accessible studies, truth bias and variables such as the receivers' personality, age, communication media, and environment have received a lot of consideration. Yet, it is undisputable that the effects of sex differences have been continually disregarded. The first sign of such an omission is that the whole number of studies with sex differences as a central point in deception detection seems to be significantly limited in communication research. The other sign of this oversight is that present studies on sex differences and the effects of deception detection frequently come to varied outcomes.

The channel or medium through which individuals communicate may also affect individuals' accuracy rate in deception detection (Bond and DePaulo, 2006). Various media have diverse characteristics. Media Richness Theory (Daft and Lengel, 1986) states that each communication medium exhibits an exclusive degree of richness that is measured by the language variety, quantity of personal attention, and the amount of social cues conveyed with the message. According to Media Richness Theory, face-to-face seems to be the richest communication medium, followed by telephone, instant messaging, and email.

Daft and Lengel (1986) envisaged that individuals would be most prone to lying through the richest medium (face-to-face) where equivocal communication (deception) would be more likely to prosper since face-to-face communication permits the interaction control, full monitoring, and instant feedback. Yet, the Social Distance Hypothesis foresees the reverse order (DePaulo et al., 1996; Hancock et al., 2004). Some scholars (DePaulo et al., 1996; Hancock et al., 2004) believe that since devious behaviour would constantly make individuals uncomfortable, individuals would like to select the medium where they would have the minimum likelihood to be challenged and most convenience to escape. Therefore, face-to-face communication will be the least preferred situation when individuals decide to lie while computer-mediated communication still will be the perfect medium for cheating. Experimental data reinforced neither of the estimates: the highest degree of deception (lies per social interaction) is observed to take place on phones while the lowest is in email (Hancock et al., 2004). DePaulo et al. (1996) studied communication through face-to-face, telephone, and writing, and the outcomes indicated a related pattern.

Concerning which in medium individuals have the best chance of identifying a liar, earlier research offers moderately reliable outcomes. Facial expressions as well as words tend to be highly manageable (DePaulo, Lassiter and Stone, 1982). Body movements and voice, on the other hand, tend to be most problematic to control (DePaulo and Rosenthal, 1981).

To sum up, it appears that face-to-face communication ought to be the most problematic detection situation since individuals can divert the receivers effortlessly by falsifying facial expressions. It also shows that computer-mediated communication is the place where individuals will exploit deceptive communication more often, especially taking into consideration that it is more difficult to detect deception in this medium.

4. GENDER AND DECEPTIVE COMMUNICATION

Research in communication with individuals' sex as a central variable is limited (DePaulo, Esptein and Wyer, 1993; McCornack and Parks, 1990). Levine et al. discussed potential sex differences in emotional reactions toward exposed lies (Levine, McCornack and Avery, 1992). Their study indicated that despite the lies' content, targets, and relationship with the liars, women have a tendency to rate deception as more substantial, more intolerable, and reported meaningfully more negative emotional responses toward exposed lies. A study conducted by McCornack and Parks (2006) looked at romantic couples and their accuracy at detecting their spouses' lies. The outcomes proposed that women are fundamentally better at recognizing lies in romantic relationships, irrespective of the level of the relationship progress. Yet, the

comparable research conducted by DePaulo et al. (1993) claimed the opposite. Consistent with the outcomes in this study, female judges were more prone than males to believing the fake liking that the subjects displayed. In other words, females were more prone to missing the liars.

Two supplementary studies have studied potential sex differences in deceptive behaviors (Dreber and Johanneson, 2008; Haselton, Buss, Oubaid and Angleitner, 2005). Dreber and Johanneson observed that no sex differences were found in individuals' abilities in recognizing liars. A study by Haselton et al. (2005) was similar to Levine, McCornack, and Avery's (2006) emphasis. Haselton et al. (2005) examined sex differences in emotional reactions toward different kinds of deception, specifically, in romantic relationships. Deliberating deception in romantic relationships, the authors foresaw and noticed that men and women, looking for long-term or short-term relationships, would exhibit different patterns of emotional reactions toward various types of lies. For instance, in search of long-term relationships, men would be more disappointed if women lied about their fertility, but women would be more disappointed when men lied about their resource, status, and commitment, both before and after having sex. When looking for short-term relationships, men believed lies about age to be more disappointing, while women were more disappointed with lies rejecting commitment to others.

Some supplementary studies discussed sex effects in deception detection while not analysing them directly. Even though outcomes are varied, most propose that sex does not correlate with individuals' capability in detecting deception (Aamodt and Custer, 2006; Levine and Kim, 2010). Other studies proposed probable sex differences in deceptive communication, frequently arguing that women tend to be superior at deciphering nonverbal cues, thus suggesting that women might be better lie detectors (DePaulo and Rosenthal, 1981). Nevertheless, DePaulo et al. (DePaulo, 1981) stated that women are more prone to reading overt (fake) messages than covert (truthful) messages, particularly when the fake message was positive. Other scholars foresee that women are more accommodated to being polite and supportive, henceforth they would rather disregard cues to deceptive behaviors (DePaulo and Rosenthal, 19791981). This prediction was established in research where females were less precise in detecting deception than males (DePaulo, Esptein and Wyer, 1993). Concerning probable sex diversities when behaving as deceivers, some researchers maintain that men are more effective liars (DePaulo, Stone, and Lassiter, 1982) or that men will have a tendency to deceive more (Serota, Levine and Boster, 2010). Yet, DePaulo et al. (1996) observed more lies from women in everyday life, but it appears that men may have a tendency to tell outright lies more freqently (Carlson, George, Burgoon, Akins and White, 2004).

5. RESEARCH

5.1. Research questions

Earlier studies in deceptive communication, particularly ones on deception detection, seem to be quite limited in regard to the number of studies that discuss possible sex differences. Furthermore, even with the accessible data of women and men's performance as lie indicators, the outcomes seem to be still quite varied. Researchers frequently came to the conclusion that individuals can only do somewhat better than chance in deception recognition, yet they have

disregarded the possible effects that the sex of participants, both receivers and deceivers, can find in deceptive communication.

This research tries to complete this gap by offering a central emphasis on the investigation of sex as a variable in deception detection. Both the sex of speakers and the sex of receivers were considered to regulate if they might influence individuals' deception detection accuracy in interpersonal communication scenarios. Explicitly, this research offers empirical tests that aim to answer the following research questions:

RQ1: Which sex is better at detecting lies?

RQ2: Are individuals better at detecting same-sex liars, or opposite-sex liars?

Basically, RQ 1 tries to answer the question whether individuals of a particular sex tend to be superior at noticing deception in general. The RQ2 aims to find the answer to whether the performance of both males and females as deception indicators can affect the process and how this might correlate with the sex of the speakers.

5.2. Methodology

Copious research on deceptive communication uses a forced choice design, demanding each participant to choose whether a stranger speaking was truthful or deceptive (Knapp et al., 1974). Yet, it is usually the case in interpersonal interaction that individuals are uncertain as to whether a given individual is being deceitful in a certain situation. Levine and Kim (2010) claimed that it might be this kind of experimental design exploited in most of the deceptive communication studies that influenced individuals' accuracy rates to be around chance level. In the current study, the participants were permitted to use "Uncertain". This permits study participants to self choose their capability to detect dishonesty in each specific case. The research question then becomes whether an individual's confidence in deception detection in a certain instance is related to their actual capability to detect deceits in that instance.

A 2 x 2 x 2 experimental design was exploited. The speakers' sex (female/male), receivers' (participants) sex (female/male) as well as message veracity (truthful/deceptive) were used as three sets of independent variables. One hundred volunteer participants took part in this study. 41% (41/100) were male and 59% (59/100) female. The average age of both the male and female participants was 25.0, with a slightly larger variation in females (Range =17 to 54, SD = 1.79) than in males (Range = 18 to 45, SD = 1.53).

The participants were involved in an online interaction (chatroom). Before entering the interaction, participants were instructed to tell truth or lie to their interlocutor. Later, a short questionnaire was used in this research, involving two parts. The first part of the questionnaire took into consideration the participants' evaluation of each speaker's honesty, while the second part looked at the participants' demographic information and their general attitudes towards ordinary deceptive communication. In the first part of the questionnaire, the participants were requested to talk about their perception of the speakers' honesty. After dealing with the chosen parts of texts, the participants were asked to rate a speaker's honesty on a seven-point scale (-3 to +3), 0 as undecided, +1 to +3 as honest, and -1 to -3 as dishonest. In the second part of this

questionnaire, the participants were questioned about their demographic information and their general concepts of deception in ordinary life.

5.3. Results

The 100 participants responded to a total of 787 judgments of the presented texts from different speakers. They showed confidence in 637 of their judgments of the truth or falsity of the speakers, 356 of which were accurate and 285 incorrect for an overall accuracy rate of 0.542. Employing 0.5 as an anticipated value and Blalock's test (1974) for the significance of a single proportion from a theorized value (1972, pp. 160-161), $Z = 1.923$, $p < .0554$, which is near but less than $p = .05$ significance. The 0.5 value, as expected, is suitably grounded on the null assumption of an equal likelihood of any judge with confidence in the judgment choosing either of two options on each of the items, truth or lie. Power $\sim= .68$ for Cohen's small effect size, which seems to be somewhat larger than his standard for small ES definitions. Thus, exploiting the entire data set, the statement that a truth bias effect was not better than Cohen's small effect size tends to be rational. Small effects may go unnoticed, suggesting the necessity for replications and a cumulative larger N, so conclusions grounded on this data set should be recognized as preliminary.

Male judges were accurate in 98 of 189 judgments, an accuracy rate of 0.518 ($Z < 1$), and female judges were accurate in 249 of 452 judgments, an accuracy rate of 0.548 ($Z = 1.99$, $p < .0048$, and the difference between the two judge gender rates does is not significant ($Z < 1$). Power $= .97$ for medium ES, and .99 for large ES.

5.3.1. Honest vs. Deceptive Statements

The 100 participants judged 325 honest statements and 318 lies. Judges were accurate with 215 honest statements, an accuracy rate of 0.668 ($Z = 5.92$, $p < .0000001$), and with 139 lies, an accuracy rate of 0.414 ($Z = -3.180$, $p < .000740$, power $\sim=.996$, medium ES). The rate difference tends to be significant ($Z = 6.49$, $p < .0000001$; Blalock, difference of proportions, 1972: 228 – 230).

The 41 male judges were accurate in 59 of 98 judgments of truthful statements, an accuracy rate of 0.605 ($Z = 2.05$, $p < .0415$), and in 40 of 95 judgments of deceiving statements, an accuracy rate of 0.425 ($Z = -1.49$, $p < .139$). The correctness rates for male judges are meaningfully different for truthful and deceptive statements ($Z = 2.49$, $p < .015$). Power $= .86$ medium ES, .99 large ES.

The 59 female judges seemed to be accurate in 170 of 255 judgments of truthful statements, an accuracy rate of 0.699 ($Z = 5.75$, $p < .0000001$), and in 98 of 220 judgments of deceptive statements, an accuracy rate of 0.415 ($Z = -2.87$, $p < .0048$). The correctness rates for female judges are implicitly various for truthful and deceptive statements ($Z = 6.15$, $p < .0000001$).

5.3.2. Male vs. Female Speakers

Judges were correct with 125 of the male's statements, an accuracy rate of 0.396 ($Z = -3.71$, $p < .00011$), and with 235 of the female's statements, an accuracy rate of 0.676 ($Z = 6.27$, $p < .0000001$). Power $\sim=.996$ for a medium or larger ES. These accuracy rates are meaningfully diverse for male and female sources ($Z = 7.08$, $p < .0000001$).

The 41 male judges were accurate in 38 of 102 judgments of men's statements, an accuracy rate of 0.368 ($Z = -2.59$, $p < .0099$), and in 68 of 102 judgments of women's statements, an accuracy rate of 0.668 ($Z = 3.24$, $p < .0015$). Power = .85 medium ES, .99 large ES.

The 59 female judges were correct in 90 of 220 judgments of men's statements, an accuracy rate of 0.409 ($Z = -2.75$, $p < .0065$), and in 162 of 239 judgments of women's statements, an accuracy rate of 0.677 ($Z = 5.36$, $p < .0000001$). Power = .99, medium or more ES.

5.3.3. Truthful vs. Deceptive Statements from Male vs. Female Speakers

The 100 participants judged 650 statements, 310 statements from male participants and 340 from female participants. The judges were accurate with 90 of 169 honest statements generated by men, an accuracy rate of 0.527 ($Z < 1$), and with 130 of 160 truthful statements created by women, an accuracy rate of 0.808 ($Z = 7.64$, $p < .0000001$). Concerning deceptive statements, the judges were correct with 49 of 150 statements created by men, an accuracy rate of 0.255 ($Z = -6.02$, $p < .0000001$), and with 95 of 180 statements created by women, an accuracy rate of 0.548 ($Z = 1.24$, $p < .219$). For truthful statements, the correctness rate on statements created by women tends to be meaningfully greater than for statements created by men ($Z = 5.32$, $p < .0000001$). With deceptive statements, the correctness rate on deceits told by men seems to be meaningfully lower than for deceits told by women ($Z = 5.35$, $p < .0000001$). Power = .99, medium or greater ES.

The 41 male judges were accurate with 38 of 48 truthful statements created by women, an accuracy rate of 0.763 ($Z = 3.55$, $p < .0005$), and with 26 of 51 truthful statements crated by men, an accuracy rate of 0.47 ($Z < 1$). The 41 male judges were correct with 28 of 50 deceptive statements expressed by women, an accuracy rate of 0.575 ($Z = 1.01$, $p < .3125$), and with 15 of 48 deceptive statements by men, an accuracy rate of 0.258 ($Z = -3.21$, $p < .0015$). Power = .57 medium ES, .96 large ES.

The 59 female judges were correct with 95 of 110 truthful statements created by women, an accuracy rate of 0.836 ($Z = 6.71$, $p < .0000001$), and with 65 of 115 truthful statements created by men, an accuracy rate of 0.556 ($Z = 1.15$, $p < .2545$). The 59 female judges were accurate with 72 of 130 deceptive statements said by women, an accuracy rate of 0.537 ($Z < 1$), and with 30 of 110 deceptive statements expressed by men, an accuracy rate of 0.26 ($Z = -5.11$, $p < .0000001$). Power = .94 medium ES, .99 large ES.

The participants were requested to rate their self-confidence level when making their choices. The results are presented in the table below:

Participant Judges	Female Truthful	Female Deceptive	Male Truthful	Male Deceptive
Female Judges	1.93	2.13	2.05	1.78
Male Judges	1.78	1.67	1.98	1.12

TABLE 1. AVERAGE CONFIDENCE LEVELS BY ACCURATE JUDGES

To control if earlier life experience with deceptive communication might have influenced the participants' judgments in this study, this research also requested participants to say how often they had uncovered a deceit in past interpersonal communication and the sex of the source of that lie The results are shown in the tables below:

Participant Judges	Female Speakers	Male Speakers
Female Judges	0.625	0.378
Male Judges	0.578	0.432

TABLE 2. SEX OF SPEAKERS WITH MORE REVEALED LIES

The participants were also asked who they expected to tell lies more often to them. The outcomes are presented in the table below:

Participant Judges	Female	Male
Female	0.554	0.449
Male	0.466	0.538

TABLE 3. ANTICIPATED MORE COMMON LIARS

6. DISCUSSION

This research discussed deception detection by examining a possible interplay of the speaker's sex as well as the receiver's sex, and thus the effects of such interaction on receivers' correctness on spotting lies or truth. In contrast to the opinion that sex has a slight association to the research of interpersonal deception and interpersonal deception detection, important sex-related effects were shown in the form of greater lie and truth detection in messages from women, and meaningfully less lie and truth detection in communications from men, showing men may be better at deceiving than women, while women may be more translucent with more cues regarding their veracity.

As specified in the results presented in the previous section, the general truth-lie accuracy rate across this research seems to be slightly but not significantly above chance at .537, which is consistent with earlier studies on deceptive communication that suggested (Bond and DePaulo, 2006).

One can observe that there seem to be no significant sex differences as overall accuracy rates in deception detection. The absence of implication for this effect indicates that truth bias alone is not sufficient to clarify significant outcomes within the conditions. Between male and female participants, females did somewhat better than male judges at distinguishing liars and truth-tellers, with females having a 56.8% accuracy rate and males at 53.4%. Yet again, this variance is

not statistically significant, signifying that male judges and female judges on the whole do not show differences in their capabilities at detecting a liar or recognizing a truth-teller. This outcome seems to be consistent with most of the earlier studies presented in the previous sections (e.g., Ekman and O'Sullivan, 1991;; Manstead, Wagner and McDonald, 1986; Zuckerman, DePaulo and Rosenthal, 1981; Levine et al. 2006).

Truth bias is also observed in this research when viewing further at participants' separate performance on truthful and deceptive statements. Both male and female judges did better when detecting truthful statements. However, this difference is not statistically different. Although both accuracy levels are well above chance, it seems that females are more truth-biased than the males. When it comes to deceptive statements, both male and female performances are below chance level. However, the females' accuracy level was statistically significant while the males' was not. This implies that females may be more truth-biased and this tendency is significant.

As recommended, males and females tend to be almost equally truth-biased on the whole and neither of them appears to have a distinct gift in parsing dishonesties from truths. Yet, one can see that males may have posed more problems for the judges while female speakers appeared more transparent. Most of the judges were correct in their decisions concerning female speakers' statements while a meaningfully smaller number of the judges were correct in judging males' true intents. This pattern is also observed correspondingly in both the male judge group and female judge group, and the alterations are obviously significant in statistical tests.

Nonetheless, if the data are further examined by the analyzing speaker's sex and the truthfulness of the message as two sets of independent variables, the effects of speakers' sex on viewers' perception and how it correlated with the truthfulness in computer-mediated communication may be more visible. Firstly, when the female speakers were truthful, a statistically substantial majority of female and male judges in this research made correct judgments and supposed that the truthful female speakers were certainly telling the truth. Secondly, the accuracy of judging of the performance of females who told untruths dropped to near chance level. It may be that individuals are less truth biased when they are relating with dishonest females.

The outcomes seem to be diverse when the speakers were male. When males were truthful, the correctness rates were not meaningfully different from chance, while they were meaningfully different when the females were truthful. While the females' measured accuracy amount was larger than the males' in recognizing male truth-tellers, the alteration was not important. With men as liars, accuracy rates dropped dramatically. This pattern might indicate that individuals tend to be extremely truth-biased when males are telling fabrications, more truth-biased even than when males are certainly telling the truth. It could designate actual alterations in detection chances under these circumstances.

Consequently, to answer RQ 2 one can see that neither men nor women are expert at detecting male liars, but both female and male judges were far more correct than chance when noticing female truth tellers. It is likely that earlier studies concentrating on around-chance-level accuracy in judging deception may be related to two factors, namely transparent female

speakers and problematic male speakers. When deception detection outcomes are calculated across sex of source and again across sex of receiver, the outcomes in the data of this research specify little more than chance in the detection of deception and truth telling. However, when outcomes are examined by source and receiver sex, sex differences in the judgment of deception become clear.

The self-confidence of judges' in their own choices was measured. One can notice that the average female sureness scores were higher than male scores in each category. It is worth mentioning that when male judges perceived male deceivers, the judges' confidence levels were meaningfully lower than that in any other circumstances. Although female judges' self-confidence levels in their decisions of deceptive males is not meaningfully different from levels in the other three categories, they were lower than regular female confidence scores in the other three groups. This suggests that male judges, and probably female judges, may have been conscious about some level of the trouble they were having in precisely forecasting deception among deceptive males.

As was indicated in the section above, some female participants anticipated more deceits from females than from males. Yet, males report that they would still anticipate more lies from males. Although the alterations in both categories are not substantial, it is stimulating to draw attention to the fact that males still believed females though they understood that had been deceived more by females.

Furthermore, as recommended in this research, only about one in every four male deceivers were recognized to have lied after they had lied. This might partly describe the apparently contradictory patterns. Although males notice fewer lies from their sex, males may identify it is not because males certainly lie less than the females - but for the reason that males are less frequently caught after they tell lies.

7. CONCLUSIONS

This paper presented some novelties in examining interpersonal deceit and truth detection. Firstly, it permitted the judges an "uncertain" choice to circumvent obliging them to decide even if the judges did not show enough self-confidence or evidence to do so. One motive for this strategy is the issue that some individuals may be timid to make instant decisions on someone's truthfulness during or right after an exchange (Park, Levine, McCornack, Morrison and Ferrara, 2002). Secondly, this study concentrated mainly on possible sex differences in deceptive communication, more precisely, deception detection. As opposed to just analyzing the receiver's sex and its outcomes on deception detection correctness, this paper discussed the interaction of the receivers' sex and the speakers' sex and how this collaboration might influence the accuracy of deception detection. By adopting this approach, hence, this study produces outcomes demonstrating important effects that earlier studies have not studied.

This paper aimed to study the truth and deception detection capabilities of both male and female receivers when replying to true and deceptive messages from both male and female speakers. Though the alterations between female and male capacities at perceiving truthfulness or deception were not significant across all circumstances, the variation seems to be significant

under specific circumstances. Females may be meaningfully more translucent than males, particularly when females are being truthful. The probability of noticing a female truth-teller was high. Conversely, deceptive male behavior tends to be harder to notice: the probability of detecting a male liar was low. Consequently, it might be rational to conclude that earlier studies producing around-chance-level accuracy might have been instigated by two factors, namely high accuracy rates with translucent female speakers (particularly female truth-tellers) and low accuracy rates with hard male speakers (particularly male deceivers).

This paper also offers a preliminary effort to discuss probable sex effectsin deception detection situations. Though this paper did produce stimulating outcomes, further research is needed so as to create or restructure the results in this specific experiment. Upcoming research might also explore what makes men less prone to be spotted when being deceitful or why women appear more transparent when deceiving. Studies may begin at investigating the various communication styles of these two gender groups and how they influence men and women in their deceptive behaviors and the process of deception detection. Moreover, prospect studies can also examine what makes individuals more prone to lying or to being truthful and if there will be sex variations in the predilections. Taking into account the fact that men and women are motivated in a different way in social behaviors, it would also be probable that the reasons for telling the truth differ between men and women.

REFERENCES

Aamodt, M. G., & Custer, H. (2006). Who can best catch a liar? A meta-analysis of individual differences in detecting deception. The Forensic Examiner, 15(1), 6-11.

Blalock, H. M. (1972). Social Statistics. New York: McGraw Hill.

Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. Personality and Social Psychology Review, 10(3), 214-234. doi:10.1207/s15327957pspr1003_2

Boush, D. M., Friestad, M., & Wright, P. (2009). Deception in the marketplace : The psychology of deceptive persuasion and consumer self-protection. New York: Routledge.

Camden, C., Motley, M. T., & Wilson, A. (1984). White lies in interpersonal communication: A taxonomy and preliminary investigation of social motivations. Western Journal of Speech Communication, 48(4), 309-325.

Carlson, J., George, J., Burgoon, J., Adkins, M., & White, C. (2004). Deception in computer mediated communication. Group Decision and Negotiation, 13, 5–28.

Daft, R.L. & Lengel, R.H. (1986). Information richness: A new approach to managerial behavior and organizational design. In Cummings, L. L. & Staw, B.M. (Eds.), Research in organizational behavior 6 (pp. 191-233). Homewood, IL: JAI Press.

DePaulo, B. M., Epstein, J. A., & Wyer, M. M. (1993). Sex differences in lying: How women and men deal with the dilemma of deceit. In M. Lewis, & C. Saarni (Eds.), Lying and deception in everyday life (pp. 126-147). New York: Guilford Press.

DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. Journal of Personality and Social Psychology, 70(5), 979- 995. doi:10.1037/0022-3514.70.5.979

DePaulo, B. M., Kirkendol, S. E., Tang, J., & O'Brien, T. P. (1988). The motivational impairment effect in the communication of deception: Replications and extensions. Journal of Nonverbal Behavior, 12(3), 177-202. doi:10.1007/BF00987487

DePaulo, B. M., Lassiter, G. D., & Stone, J. L. (1982). Attention all determinants of success at detecting deception and truth. Personality and Social Psychology Bulletin, 8(2), 273-279. doi:10.1177/0146167282082014

DePaulo, B. M., & Rosenthal, R. (1981). Telling lies. Journal of Personality and Social Psychology, 37(10), 1713-1722. doi:DOI: 10.1037/0022-3514.37.10.1713

Dreber, A., & Johannesson, M. (2008). Gender differences in deception. Economics Letters, 99(1), 197-199. doi:DOI: 10.1016/j.econlet.2007.06.027

Ekman, P., & O'Sullivan, M. (1991). Who can catch a liar? American Psychologist, 46(9), 913-920. doi:10.1037/0003-066X.46.9.913

Ekman, P., O'Sullivan, M., & Frank, M. G. (1999). A few can catch a liar. Psychological Science, 10(3), 263-266. doi:10.1111/1467-9280.00147

Feldman, R. S., Forrest, J. A., & Happ, B. R. (2002). Self-presentation and verbal deception: Do self-presenters lie more? Basic and Applied Social Psychology, 24(2), 163-170. doi:10.1207/153248302753674848

George, J. F., & Robb, A. (2008). Deception and computer-mediated communication in daily life. Communication Reports, 21(2), 92-103. doi:10.1080/08934210802298108

Hample, D. (1980). Purposes and effects of lying. Southern Speech Communication Journal, 46(1), 33-47.

Hancock, J., Thom-Santelli, J., & Ritchie, T. (2004). Deception and design: The impact of communication technology on lying behavior. In E. Dykstra-Erickson, & M. Tscheligi (Eds.), Proceedings of the 2004 conference on human factors in computing systems (pp. 129-134). New York: Association for Computing Machinery.

Haselton, M. G., Buss, D. M., Oubaid, V., & Angleitner, A. (2005). Sex, lies, and strategic interference: The psychology of deception between the sexes. Personality and Social Psychology Bulletin, 31(1), 3-23. doi:10.1177/0146167204271303

Inglehart, R., Basañez, M., & Moreno, A. (1998). Human values and beliefs: A crosscultural sourcebook. Ann Arbor, MI: University of Michigan Press.

Knapp, L. M., Hart, R. P., & Dennis, H. S. (1974). An exploration of deception as a communication construct. Human Communication Research, 1(1), 15-29. doi:10.1111/j.1468-2958.1974.tb00250.x

Kraut, R. E. (1980). Behavioral roots of person perception: The deception judgments of customs inspectors and laymen. Journal of Personality and Social Psychology, 39(5), 784-798.

Kuzio, A. (2018). Cross-cultural Deception in Polish and American English in Computer-Mediated Communication. New Castle upon Tyne: Cambridge Scholars Publishing.

Levine, T. R., & Kim, R. K. (2010). Some considerations for a new theory of deceptive communication. In M. S. McGlone, & M. L. Knapp (Eds.), The interplay of truth and deception: New agendas in theory and research (pp. 16-34). New York: Routledge.

Levine, T. R., Park, H. S., & McCornack, S. A. (2006). Accuracy in detecting truths and lies: Documenting the "Veracity Effect". Communication Monographs, 66(2), 125- 144.

Manstead, A., Wagner, H. L., & McDonald, C. J. (1986). Deceptive and non-deceptive communications: Sending experience, modality, and individual abilities. Journal of Nonverbal Behavior, 10(3), 147-167.

McCornack, S. A., & Parks, M. R. (1990). What women know that men don't: Sex differences in determining the truth behind deceptive messages. Journal of Social and Personal Relationships, 7(1), 107-118. doi:10.1177/0265407590071006

Park, H. S., Levine, T. R., McCornack, S. A., Morrison, K., & Ferrara, M. (2002). How people really detect lies. Communication Monographs, 69(2), 144-157.

Prater, T., & Kiser, S. B. (2002). Lies, lies, and more lies. SAM Advanced Management Journal,67(2), 9–36.

Sanchez-Pages, S., & Vorsatz, M. (2008). Enjoy the silence: An experiment on truthtelling. Experimental Economics, 12(2), 220-241. doi:10.1007/s10683-008-9211-7

Seiter, J. S., Bruschke, J., & Bai, C. (2002). The acceptability of deception as a function of perceivers' culture, deceiver's intention, and deceiver-deceived relationship. Western Journal of Communication, 66(2), 158-180.

Serota, K. B., Levine, T. R., & Boster, F. J. (2010). The prevalence of lying in America: Three studies of self-reported lies. Human Communication Research, 36(1), 2-25. doi:10.1111/j.1468-2958.2009.01366.x

Turner, R. E., Edgley, C., & Olmstead, G. (1975). Information control in conversations: Honesty is not always the best policy. Kansas Journal of Sociology, 11(1), 69-89.

Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. In L. Berkowitz (Ed.), Advances in experimental social psychology (volume 11, pp. 1-59). New York: Academic Press.