

Social Competence in Online Communication between Introverts and Extroverts

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Abstract

According to Lieberman and Rosenthal (2001), extroverts have working memory processes that allow them to be more socially competent in situations that cause high cortical arousal. In addition, introverts have less conversation multitasking skills than extroverts and due to this introverts have been considered socially incompetent. By using conversation goals that emphasize either conversation maintenance or reflected appraisal in an online communication setting, this study determined that there was no difference social competence between introverts and extroverts in an online communication setting.

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Introverts have been viewed as socially incompetent compared to extroverts. Lieberman and Rosenthal (2001, p. 294) define social competence as “the ability to interact effectively in social environments” through constantly adjusting social performance based on the cues given by other people. Social competence is at best, very socially constructed, and in terms of the studies considered by this experiment is left mostly implicit and up to the participants to decide what is a “good” conversation. Eysenck’s theory of arousal points to the neurological origins of introverts social incompetence (Eysenck & Eysenck, 1968; Lieberman & Rosenthal, 2001). The deficit introverts are thought to possess is attributed to lack of nonverbal decoding skills. However, the social incompetence is also present when there are no nonverbal cues to decode, such as in phone conversations (Lieberman & Rosenthal, 2001).

This study was modeled after a study by Lieberman and Rosenthal (2001), which tested multitasking two conversation goals during phone conversations between strangers of similar personality types. In the initial study, after allowing participants to hear a playback of the conversation in certain conditions, those participants showed greater multitasking ability through lower mean error reflected appraisal scores. Higher error scores represented less accurate reflected appraisal ratings within the conversation, compared with the judge’s reflected appraisal ratings of the conversation. In their second study, it was found that when told to focus on reflected appraisal, introverts did not have significantly higher mean error scores, but introverts had a higher mean error score when they were not focused on reflected appraisal. This was explained in reference to the efficient working memory processes that extroverts possess due to the arousal theory of extroversion. The present study tested multitasking of conversation goals by introverts and extroverts in instant messaging conversations. The connection between

multitasking, arousal and conversation goal will be expanded upon further later in this introduction. It is hypothesized that instant messaging would provide introverts the opportunity to accomplish both conversation maintenance and reflected appraisal goals simultaneously, due to the ability to review the text conversation as participants are forming their reply which would eliminate the need to hold their response in their working memory, and that introverts will accomplish this better than extroverts due to greater inclination of introverts toward online communication.

History of Extroversion-Introversion Spectrum

Carl Jung was the originator of extroversion-introversion spectrum. For the current study, extroversion and introversion were given much attention to consolidate evidence into one general descriptive theory. According to Freyd (1924) the theory that the terms originate with is Jung's theory of personality. Jung posited that someone is introverted when he believes no one but himself worthy of consideration and lacks interest in the outside world. On the other hand, he believed extroverts to be devoted to giving their ultimate interest to the outer world instead of themselves. All other subsequent descriptions are based on the dichotomy that Jung described.

Influenced by Jung's definitions of introvert and extrovert personality types, McDougall, Downey, Allport all gave descriptions of introverts and extroverts which were assembled to compose the following: Introverts are individuals whom have an exaggerated thought processes in relation to social behavior and a consistent tendency to withdraw from social contacts while being slow, reserved, anxious, and difficulty expressing emotion. Meanwhile, extroverts are individuals whom diminish thought processes in relation to observable social behavior and make social contacts much easier. Their emotions are easily expressed and tend to be active persons.

Alongside, they have nothing to repress or avoid (Freyd, 1924). This general theory shows how introverts came to be thought of as socially incompetent when compared with extroverts.

Eysenck's arousal theory is based on the idea that different individuals have different baseline levels of arousal, and that due to their different baselines, both introverts and extroverts are constantly seeking the optimum level. Data from various psychophysiological measures have shown that introverts are more reactive than extroverts because they are hypothesized to have a baseline level of arousal closer to optimal level, so that when they are exposed to an arousing stimulus, they go above the optimum level of arousal much quicker than extroverts. However, when stimuli do raise arousal levels extroverts outperform introverts (Eysenck & Eysenck, 1968). The arousal theory posited a physiological basis for personality type that described why introverts may be more socially incompetent, which did not seem to be present in previous descriptive theories set forth.

Small-Group Discussions and the Extroversion-Introversion Spectrum

The extroversion-introversion spectrum has significant social implications in group face to face settings. According Nussbaum (2002), there are different ways of communication and argumentation between extroverts and introverts when engaging in small-group discussions. Two studies were conducted to determine how extroverted and introverted students worked with one another during a small-group discussion. Nussbaum hypothesized that unlike extroverts who prefer conflictual modes of argument; introverts would prefer a more cooperative mode. This is because, unlike extroverts, introverts tend to focus on internal thoughts and seek to avoid social embarrassment from losing an argument (Nussbaum, 2002).

Nussbaum's first study was conducted with two sixth-grade classrooms with a total of 67 students. Eight students were targeted for examination (four were extraverts and four introverts).

Similar to our study, the Nussbaum study used the Eysenck Personality Questionnaire (EPQ) which was administered at the beginning of the school year. Following the completion of the questionnaire the Group Learning Preference Scale (GLPS) was given. This scale measures how students work in small groups. Homogeneous groups between extroverts and introverts were set up to produce more data about argumentation styles. Results indicated that extroverted students had the tendency to talk more frequently but have more conflictual arguments than did introverted students who worked in adversarial terms. Extroverts used a greater amount of contradictions and counterexamples which showed their tendency to use more conflictual language, whereas, introverts used more design claims which reflects their desire for a more constructive style of argumentation. Overall, no correlation was found between extroversion and the GLPS scores, though it was generally thought that extroverts would prefer working in a group (Nussbaum, 2002). The preference of extroverts for conflictual conversation and higher levels of confidence in their ideas seemed to indicate their higher level of social competence compared to introverts. According to Nussbaum, extrovert's strong argumentation styles as well as conversational confidence are things that are typically associated with social competence. In a similar study, Keefer, Zeitz, and Resnick (as cited by Nussbaum, 2000) and Resnick, Salmon, Zeitz, and Wathen (as cited by Nussbaum, 2000) documented two conflictual styles of argumentation, where individuals (more likely extroverts) attempt to "win" the argument, and a constructive style where individuals (more likely introverts) work together to critique arguments and build new ones.

Similar to the first study, the second study Nussbaum (2002) conducted used a larger population of students who were pre-service teachers enrolled in an introductory educational psychology course. Eight introverts and eight extroverts were asked to discuss two different

dilemmas that related to the educational psychology class for 20 minutes. As with before, the results indicated that the extroverts greater use of contradictions and counterexamples are strong evidence of conflictual discussion whereas the introverts used design claims that are consistent with more constructive argument (Nussbaum, 2002). Ultimately, these studies indicated that extroverts prefer conflictual modes of argumentation and introverts prefer a more cooperative mode of argumentation. This could contribute to the view that extroverts are more socially competent and confident in face-to-face discussion settings. However, the current study tested participants in a Computer Mediated Communication setting not in a face-to-face setting.

Online Communication in General

Computer Mediated Communication, what is more commonly called online communication today, has a relatively recent history compared with face-to-face interactions. The timeline of online communication started with email in 1971. It was not until 1992 that text messaging was developed for phones, and 1997 when AIM came out as one of the major instant messaging platforms (Baron 2008). The researchers in the current study chose to look at instant messaging for several reasons. Among college students, online and text messaging are popular forms of textual communication. Lieberman and Rosenthal (2001) tested participants through telephone conversations. Today, synchronous communication such as instant messaging can be used to have a conversation in much the same way the phone is used among college students.

In studies of the social effects of online communication, several have found it to lack certain social dimensions that are present in face-to-face communication. Mallen, Day, and Green (2003) found that satisfaction and closeness ratings took longer to develop to the same level as face-to-face conversations. However, in both online and face-to-face conditions, participants were equally able to judge the emotions and experience of their conversation partner

(Mallen, Day & Green, 2003). Since the conversation partners were not divided by personality type in either face-to-face, online, or on the phone conversation, this indicated that reflected appraisal ratings in the Lieberman and Rosenthal study (2001) do not differ based on conversation type. Tidwell and Walther (2002) found support for hyper-personalization of Computer Mediated Communications (CMC) such as online chat, where participants exchange more intimate questions than they would in a face-to-face conversation, in order to make up for the greater limitations of online communication. The exchange of more intimate details found by Tidwell and Walther (2002) combined with the increase in duration necessary to form a sense of closeness during online communication found by Mallen, Day, and Green (2003), which could indicate that there may be a different way that introverts are able to interact that reduces the social incompetency seen in other areas of social interaction. The current study aimed to use CMC as a platform for interaction between participants. Since CMC, especially instant messaging (Flanigan, 2005), is one of the prevailing methods of communication for college students, it was assumed that in this study, students would be at least initially familiar with the social skills used in online communication, and it would not create noise within the reflected appraisal ratings throughout conditions.

Online Communication and Introversion

An Italian study of online communication personality traits and online relationships, used the Eysenck Personality Inventory (EPI) to determine personality type of participants using online chat rooms and the Internet in general. Anolli, Villani and Riva (2005) found that those that scored high on the extroversion spectrum, tended to also use chat and the internet less frequently than those who lay on the introversion end of the spectrum. The researchers also found a negative correlation between extroversion and online relationship intensity. Relationship

intensity was defined in terms of the trust, comprehension, and wideness of the participants' online communication.

Anolli, Villani and Riva (2005) believe their results indicate that those who use online chat frequently are also typically those who need constant support and approval. Online chat usage also has a high positive correlation with introversion. Those who are introverted may be deficient in support and approval due to their other deficiencies in social competence. A chat environment may also lead to greater disclosure of personal details and for many young users, a place of independence (Anolli, Villani & Riva, 2005). An Israeli study of frequent internet users found that introverts (determined using the EPQ-R) felt they were able to disclose more about themselves than they are able to in face-to-face interactions, which was referred to as the "real me" factor. Extroverts found the ability to reveal their "real self" more in face-to-face interactions (Amichai-Hamburger, Wainapel, & Fox, 2002). A Turkish study found a strong negative correlation between extroversion and Internet addiction, and later the researchers indicated that introversion may even be thought of as a risk factor for Internet addiction (Dalbudak & Evren, 2014). Introverts may have found online communication to be a place where their social incompetence was reduced in certain ways, such that they found social support and approval that increased their social performance, or vice versa.

Contrasting the way introverted people are viewed as incompetent in face-to-face or verbal interaction with the way introverts have adopted social communication online (to the point of possible addiction) indicates that perhaps there are less obstacles to successful social interaction online for introverts. Furthermore, the current study examined this phenomenon in terms of conversation goals. This phenomenon is also consistent with Eysenck's arousal theory, as the Internet is a place where social interaction is mostly initiated by the user herself and

unwanted interaction can be easily ignored, rather than in a face-to-face interaction. Thus an introverted person could reduce their arousal by distancing themselves from face-to-face social interaction, while still maintaining social relationships.

Conversation Goals and Multitasking

Lieberman and Rosenthal (2001) outlined some of the past research on what underlies the discrepancy between the social competence of introverts and extroverts and found that the evidence was not conclusive. Most major studies have searched for a difference in nonverbal decoding ability between extroverts and introverts, as it was theorized to account for the differences in social competence, but there were few correlations found linking nonverbal decoding to personality type. Due to the lack of evidence of a correlation pointing to a clear difference in nonverbal decoding skills by personality type, Lieberman and Rosenthal (2001) tested working memory efficiency as a possible correlate of nonverbal decoding deficits.

Efficient working memory processes were thought to translate into more efficient multitasking, by acting on multiple goals at once rather than one after another. Previous studies had been purely observational on the part of the participant (Lieberman & Rosenthal, 2001), requiring the participant to watch an interaction rather than participate in it. However, participating in the conversation was thought to create a situation in which multitasking of conversation goals is necessary. The effects brought on by participating in a conversation would be amplified by larger social situations. Introverts, thought to lack the same level of multitasking skills, would be worse at participating in a situation that required them to complete multiple tasks at one time (Mattews & Dorn 1995, as cited in Cain, 2012). This was also seen in differences between extroverts and introverts in reaction times when tested using comparisons of working memory to external stimuli (Lieberman, 2000). These differences are attributable to the arousal

theory of extroversion, as differences in concentrations of the neurotransmitters dopamine and norepinephrine vary with extroversion. Both neurotransmitters play a role in working memory processes, creating a balance by which multitasking processes in working memory can be most efficient (Lieberman & Rosenthal, 2001). Multitasking between social cues could have great social implications for extroverts and introverts.

Lieberman and Rosenthal (2001) tested multitasking in conversations by assigning conversation goals in a phone conversation set up between two strangers. Both goals are present in natural conversation, but by assigning a primary goal, it is thought to take the focus of a person who is more introverted away from the other goal. The goal of conversation maintenance (CM) focused the participants on maintaining a “good” conversation, whereas a reflected appraisal goal (RA) focused participants on understanding what the other conversant thought of the conversation. The goals were meant to represent the two processes thought to occur simultaneously for extroverts, but sequentially in introverts. In this study, reflected appraisal and conversation maintenance were used as goals in the same way that Lieberman and Rosenthal (2001) used them. Participants in each goal condition rated themselves, their partner, as well as be rated by their partner and the judges on five dimensions that relate to a successful conversation. The ratings were compared across conditions.

Eysenck Personality Inventory

Based on the arousal theory, Eysenck devised the original Eysenck Personality Inventory (EPI) to place individuals along the extroversion-introversion spectrum. In this study, the revised Eysenck Personality Questionnaire (EPQ-R) was used to determine personality types (Eysenck, Eysenck & Barrett, 1985). Though there are other personality inventories other than the EPQ-R, such as the Minnesota Multiphasic Personality Inventory (MMPI) and the Myers-Briggs Type

Indicator (MBTI), this study aimed to replicate the study by Lieberman and Rosenthal (2001) by using a follow up to the EPI. The EPQ-R has a short scale and a long scale version. Due to time constraints, the researchers chose to use the 48 item short scale version. The EPQ-R contains scoring mechanisms for extroversion, neuroticism and psychoticism, as well as a lie scale to highlight the degree to which participants are “faking” their score (Eysenck & Eysenck, 1968; Eysenck, Eysenck & Barrett, 1985). Extroversion in the current study was determined by a median split between scores on the spectrum, allowing for an equal number of participants on each side of the spectrum.

Method

Participants

The participants were 44 Ripon College students from ages 18 to 22. There were 33 females and 11 males. After removing two dyads, there were 40 total participants; 32 females and 8 males. Participation was voluntary and students were compensated with extra credit in their psychology courses. Participants were treated according to the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 2010).

Materials and Procedure

This study used two computers in two separate laboratories in two separate buildings. Each laboratory had a computer will use the same Internet browser using a wireless internet connection. A ten-item post-conversation rating questionnaire was used that recorded their ratings on a scale from one to seven on both self appraisal and reflected appraisal items (see Appendix B). Upon completing the conversation and rating, we used the short online version of the EPQ-R that consists of 48 yes or no questions to identify extroversion (see Appendix A).

In this study, participants were not assigned to a conversation dyad by personality type through determining the personality type a month in advance, as they were in Lieberman and Rosenthal's 2001 study. Rather, due to time constraints, participants were assigned to a dyad by the times that they were available to complete the experiment, and that dyad was then assigned a conversation goal. This is reflected by the analysis, which analyzes each participant as an individual unit rather than the dyad as an individual unit. While Lieberman and Rosenthal regarded each participant's scores as statistically related, we were not able to do so and instead chose to treat personality type as an independent variable so that each partner could be analyzed separately.

Participants were randomly assigned to meet the researcher in different locations so that the participants will not encounter the "stranger" with whom they would converse. A consent form was provided while we set up the online chat conversation. Each participant was randomly assigned a number via a random number generator and participants were informed not to mention their names or identifying characteristics during the instant-messaging session, otherwise their data would not be useable. We wanted participants to have as little real life knowledge of each other as possible, so that the post-conversation ratings only reflected the content of the online chat conversation. However, participants were able to share their gender. Each conversation dyad was randomly assigned to a goal condition, either CM or RA. The goals were explained by the researchers who were using a script. Furthermore, the researchers did not provide a specific conversation topic, as it would make it easier to formulate a conversation without focusing on the conversation goal as heavily. Part of the difficulty on the part of the participant is managing the multitasking of two research goals and the formulation of a conversation topic while anticipating how the conversation partner feels about it. Afterward, the

online version of the rating scale and the EPQ-R were set up for the participants to complete. After the participants had completed both the rating scale and the EPQ-R, they were debriefed and thanked for their participation.

Results

Initial independent *t* tests were done to assess whether the short scale EPQ-R accurately reflected extroversion as it was tested in the original Eysenck study. Eysenck and Eysenck (1985) reported mean extroversion scores for 16 to 21 year old males, ($n=108$, $M=8.16$, $SD=3.30$), and females, ($n=161$, $M=8.4$, $SD=3.23$). These means were compared with our sample of extroversion scores for males with an average age of 19.13, ($n=8$, $M=7.25$, $SD=3.19$), and females with an average age of 19.5 ($n=32$, $M=7.03$, $SD=4.53$). The means for males were not significantly different, equal variances not assumed ($p=0.45$) and the means for females were significantly different ($p=0.04$). This indicates that the majority of our EPQ-R results are not the same results found when the questionnaire was originally tested, and perhaps that our results do not accurately reflect the intended use of the EPQ-R.

This study considered the mean error score of each individual participant to be the dependent measure analyzed here. The mean error score was calculated by taking the differences between the participant's five reflected appraisal scores and their partner's five self appraisal scores, then squaring and averaging these differences for $n=40$ participants. Personality type was determined by a median split at a score of 9 on the EPQ-R, meaning that participants with scores 0 to 8 were considered introverts and those with scores 9 to 12 were considered extroverts. Two conversation dyads were removed from the final analysis due to errors when running the trials.

A Shapiro-Wilk normality test was run on the mean error scores at both levels of conversation goal, with a significant result in both the CM condition ($p<0.01$) and the RA

condition ($p < 0.05$) meaning that the data were not normally distributed. The CM condition had a skewness of 1.41 ($SE = 0.481$), kurtosis of -0.896 ($SE = 0.935$) and the RA condition had a skewness of 1.494 ($SE = 0.550$), kurtosis of 1.494 ($SE = 0.55$). Due to this positive skew, a logarithmic transformation was applied to the mean error scores, which transformed the CM scores into normally distributed scores (Shapiro Wilk, $p > 0.05$), however the RA condition remained non-normally distributed (Shapiro Wilk, $p < 0.05$). These final mean error scores were compared across the 2 levels of personality (introvert and extrovert) and the 2 levels of conversation goal (CM and RA) in a 2x2 factorial ANOVA. The main effect of conversation goal CM ($n = 23$, $M = 0.593$, $SD = 0.268$) compared to RA ($n = 17$, $M = 0.532$, $SD = 0.208$) was not significant, $F = 0.619$, $p > 0.05$ (see Figure 1). The main effect of personality type, extrovert ($n = 20$, $M = 0.544$, $SD = 0.269$) and introvert ($n = 20$, $M = 0.59$, $SD = 0.217$) was not significant, $F = 0.344$, $p > 0.05$ (See Figure 1). The interaction between conversation type and personality type was also not significant, $F = 0.49$, $p > 0.827$.

Discussion

Our second hypothesis that introverts would outperform extroverts in terms of having significantly lower mean reflected appraisal error scores was not supported. There were no significant differences found at any level of personality or conversation goal in the present study. However, our first hypothesis that introverts would perform equally well in both the conversation maintenance and the reflected appraisal conditions was supported by the lack of significant difference between the introvert scores in the RA and CM conditions. This indicates that introverts are not multitasking in the way that they were believed to be doing in the Lieberman and Rosenthal (2001) study. There were significant differences between the female EPQ-R means in our study and the female means found in Eysenck's original study. As stated

before, it may be that our results did not accurately reflect the intended use of the EPQ-R, or the EPQ-R may be outdated.

Further discussion of this study includes potential problems, limitations or positive outcome. Based off earlier research, we chose to use an online messaging system, rather than a phone conversation as Lieberman and Rosenthal (2001) used, to explore the way in which social incompetence is manifested in online communication. We conclude that an online conversation provides a platform that allows introverts to communicate without having to multitask between conversation goals.

One of the limitations for this study included the absence of a conversation topic while participants were under the conversation maintenance or the reflected-appraisal condition. Notably, many of online conversations had the same form of structure or content, due to the fact that some participants, if not most, did not have a concrete conversation topic to talk about during the ten minute conversation session. However, participants were not assigned a conversation topic in the Lieberman and Rosenthal (2001) study, so we chose to remain consistent with that study.

Another limitation to the study included the limited amount of time to run the research experiment. Due to these time limitations, the current study could not administer the EPQ-R to participants a month before being assigned to a condition, just as the Lieberman & Rosenthal (2001) study had determined personality type one month before proceeding with the experiment. One of the primer limitations of this study was the small sample size as well as a narrow range of ethnicity and age being represented. A larger sample with more diversity may have provided more accuracy to our results.

Furthermore, participants may have had difficulty understanding the goals of the study. More specifically, it seemed as if though participants were uncertain as to do when under the reflected appraisal condition. Participants seemed to have a more sense of direction when under the conversation maintenance condition but still questioned the type of conversation they thought they should have been holding. There could have been a stronger manipulation, such as having more participants or making the conversations longer. Again, because we had a limited amount of time to run the experiment we could only have had a certain number of participants. Moreover, time limitations also ruled our decision of how long each online conversation could last. Finally, an additional limitation about time includes our inability to conduct further analysis, such as the judge ratings about how the researchers perceived the conversations. Had we the time to do these judge ratings, the study could have provided another set of data of further investigation of the online conversations between participants.

Overall, our hypothesis that instant messaging would provide introverts the opportunity to accomplish both conversation maintenance and reflected appraisal goals simultaneously was supported. The current study had proposed introverts would be successful in doing so due to the ability to review the text conversation as they were forming their reply would eliminate the need to hold their response in their working memory. Furthermore, if future research is to be conducted the following limitations and concerns should be highly considered before proceeding with a new study. Had the researchers of the present study an unlimited amount of time to run the research experiment in the future, we would present our participants with the EPQ-R weeks before they completed the second half of the experiment. Through this method, we could determine the personality type of each participant and choose to pair introverts with introverts and extroverts with extroverts. Alongside, we would chose to use the longer version of the EPI,

as opposed to the short-version, which only consisted of 48 yes/no questions. Furthermore, a new area of online communication for introverts that would be considered is more time to chat with their partner with a given conversation goal for each appropriate condition. Conducting future research with these given suggestions could further amplify this study and have a potential overall significance between online communication and introverts.

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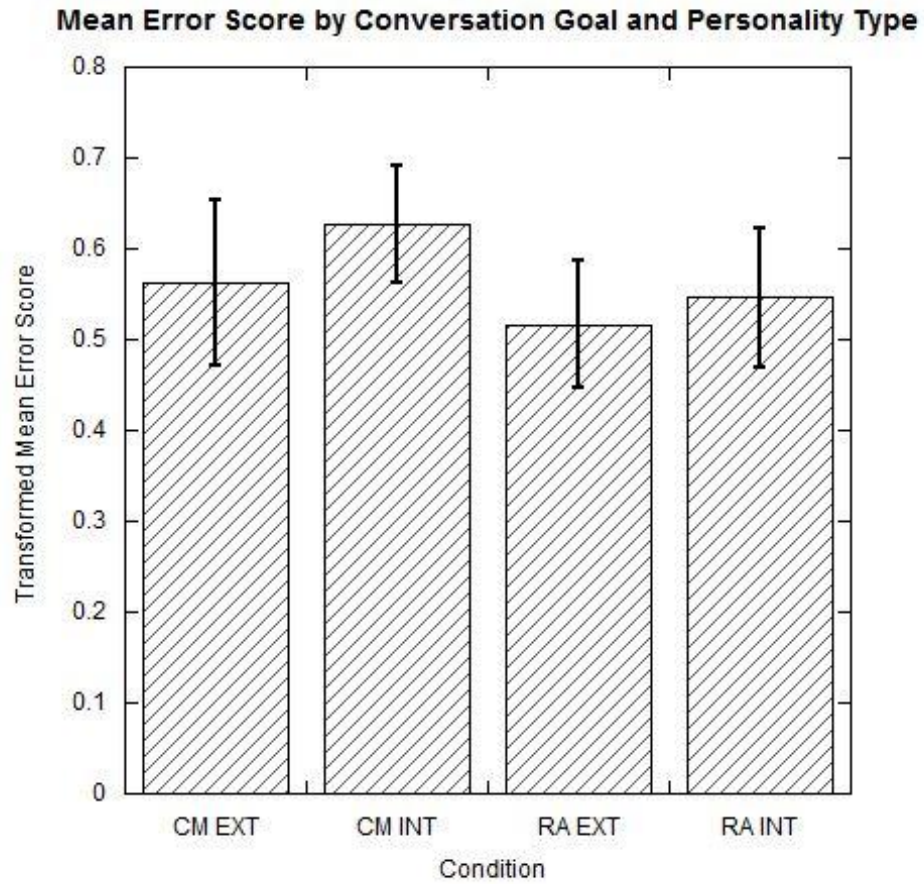


Figure 1. Mean reflected appraisal error score by conversation goals Conversation Maintenance (CM) and Reflected Appraisal (RA), and personality types Introvert (INT) and Extrovert (EXT). The error bars represent the standard error of the mean.

Appendix A

Short-scale EPQ-R

Eysenck, Eysenck, & Barrett (1985)

Answer the following questions YES or NO.

1. Does your mood often go up and down?
2. Do you take much notice of what people think?
3. Are you a talkative person?
4. If you say you will do something, do you always keep your promise no matter how inconvenient it might be?
5. Do you ever feel 'just miserable' for no reason?
6. Would being in debt worry you?
7. Are you rather lively?
8. Were you ever greedy by helping yourself to more than your share of anything?
9. Are you an irritable person?
10. Would you take drugs which may have strange or dangerous effects?
11. Do you enjoy meeting new people?
12. Have you ever blamed someone for doing something you knew was really your fault?
13. Are your feelings easily hurt?
14. Do you prefer to go your own way rather than act by the rules?
15. Can you usually let yourself go and enjoy yourself at a lively party?
16. Are all your habits good and desirable ones?
17. Do you often feel 'fed-up.?
18. Do good manners and cleanliness matter much to you?
19. Do you usually take the initiative in making new friends?
20. Have you ever taken anything (even a pin or button) that belonged to someone else?
21. Would you call yourself a nervous person?
22. Do you think marriage is old-fashioned and should be done away with?
23. Can you easily get some life into a rather dull party?
24. Have you ever broken or lost something belonging to someone else?
25. Are you a worrier?
26. Do you enjoy co-operating with others?
27. Do you tend to keep in the background on social occasions?
28. Does it worry you if you know there are mistakes in your work?
29. Have you ever said anything bad or nasty about anyone?
30. Would you call yourself tense or 'highly-strung'?
31. Do you think people spend too much time safeguarding their future with savings and insurances?
32. Do you like mixing with people?

33. As a child were you ever cheeky to your parents?
34. Do you worry too long after an embarrassing experience?
35. Do you try not to be rude to people?
36. Do you like plenty of bustle and excitement around you?
37. Have you ever cheated at a game?
38. Do you suffer from 'nerves'?
39. Would you like other people to be afraid of you?
40. Have you ever taken advantage of someone?
41. Are you mostly quiet when you are with other people?
42. Do you often feel lonely?
43. Is it better to follow society's rules than go your own way?
44. Do other people think of you as being very lively?
45. Do you always practice what you preach?
46. Are you often troubled about feelings of guilt?
47. Do you sometimes put off until tomorrow what you ought to do today?
48. Can you get a party going?

Appendix B

Post-Conversation Ratings
Lieberman and Rosenthal (2001)

Answer the following questions on a scale of 1 (Not at all) to 7 (Very much)

Self appraisal

1. How much did you like your partner?
2. How much would you like to interact with your partner in the future?
3. How friendly were you to your partner?
4. How sensitive were you to your partner?
5. How encouraging were you to your partner?

Reflected appraisal

6. How much did your partner like you?
7. How much would your partner like to interact with you in the future?
8. How friendly was your partner toward you?
9. How sensitive was your partner toward you?
10. How encouraging was your partner toward you?