

The effect of personality characteristics on the development of interpersonal communication skills through one-time training

Alon Efrat

Alexandru Ioan Cuza University of Iași, Faculty of Economics and Business Administration

Iași, Romania

alonefrat01@gmail.com

Adriana Zait

Alexandru Ioan Cuza University of Iași, Faculty of Economics and Business Administration

Iași, Romania

azait@uaic.ro

Abstract. *The importance of interpersonal communication skills in the business environment will only increase as the world undergoes trends of globalization and digitization. The factors that affect interpersonal skills, such as life experience, situational factors, and individual characteristics, are difficult to isolate. Among the prominent antecedents of interpersonal communication effectiveness are personality characteristics. The current study used one-time training to examine how personality traits and interpersonal skills relate among 127 managers from a wide variety of professions in Israel. The current study confirmed the effect of personality characteristics on interpersonal communication skills, albeit weakly. A significant improvement was found in the Emotional stability following the training. Participating in the training changed the way people associate personality traits with Interaction management. An in-depth study of an intervening variable found that those with low extraversion and high conscientiousness improved assertiveness, empathy, supportiveness, openness to experience, and self-disclosure, in contrast to those with less solid personality characteristics who showed a smaller improvement or even decreased in these skills.*

Keywords. Interpersonal communication skills, Interpersonal communication skills training, Personality traits, Big-Five, Marketing

JEL Classification. M310

1. Introduction

Communication skills are some of the most important aspects of everyday life, yet they are among the most difficult to define and assess. In light of this expanding focus and the increasing value expected from communication skills, it is worthwhile to gain a deeper understanding of them. A variety of activities that we encounter daily require interpersonal communication skills; Problem solving, resource distribution, creating collaborations, dispute resolution, and promoting important issues in an interpersonal environment at home and in the workplace. A skilled communicator can select key pieces of a complex idea to convey through words, sounds, and images to build shared understanding (Levy & Murnane, 2004). Through social perception, persuasion, negotiation, instructing, and service orientation, skilled communicators negotiate positive outcomes with customers, partners, subordinates, and superiors (Mumford et al, 1999).

Communication skills are vital to the business environment and will become even more important during the transition to the future job market. Timm (2005, cited in Mitchell, 2021) observed that in the new global marketplace, employees are expected to interact with others more personally than ever before; therefore, traditional technical skills will not suffice. Soft

skills are critically important in the workplace (Robles, 2012). According to this research, hard skills only contribute 15% to success, whereas soft skills account for 85%. In order to demonstrate these skills, one must be able to communicate and interact with others. As these skills have become increasingly important, significant funding is spent on interpersonal communication skills training programs to improve these skills.

1.1 Personality traits and interpersonal communication skills

Interpersonal communication skills tend to be situation-specific behaviors, so finding strong or even significant predictors may be difficult. Because interpersonal skills are influenced by various factors, such as life experience, situational factors, and individual characteristics, it is difficult to isolate them from other influences. Hayes, 2002, (cited in Klein, 2009), identifying strong and consistent demographic or personality predictors may be a difficult task.

According to an extensive meta-analysis published by Klein (2009), Several possible antecedents of Interpersonal communication skills have been identified in the literature. Among those most frequently investigated include gender and personality traits. Based on their findings, Klein et al. (2008) concluded that skilled social performance expertise requires competence in a number of different areas, including interpersonal communication skills. A practical framework was provided by these authors to explain how antecedent variables, such as life experience, individual differences, and personality characteristics, as well as situational characteristics, such as goals, tasks, or norms, may contribute to the perception and cognitive activity that occurs during interpersonal skills training. Consequently, the study found that personality characteristics and gender influence interpersonal communication effectiveness (Klein, 2009). Among the personality variables, extraversion showed the strongest associations with interpersonal communication skills. The results indicate a clear, positive impact of Interpersonal communication training programs.

1.2 Interpersonal communication competence scale (ICCS)

Communication competence is defined by Jablin & Sias (2001, cited in Payne, 2005) as the set of skills at a communicator's disposal. As a strategic, goal-oriented approach to competence, this definition emphasizes both knowledge and ability. Rather than focusing solely on communication, the definition emphasizes two essential aspects: understanding of communication and context, as well as the ability to accomplish goals (skill). According to Spitzberg & Cupach (1984), It is an individual's competence to choose appropriate behaviors to achieve interpersonal communication goals in a particular situation. The complexity of the communication process creates a challenge in every measurement issue. The definitions of communication competence are becoming more specific as the issue of context is considered more closely (Payne, 2005). The difference between skills and traits is that skills can be improved and change with instruction. In contrast, traits are relatively stable qualities that cannot be taught (Rubin & martin, 1994). Competence conceptualizations among researchers is commonly based on the original criteria proposed by Spitzberg & Cupach (1984): appropriateness and effectiveness. Interpersonal communication competence (ICC) refers to a judge's perception of an individual's abilities to communicate effectively in social situations (Rubin & Martin, 1994). There has been a strong association between ICC and the ability to adapt to new situations. This brief, self-report questionnaire measures ten ICC skills and is useful for self-assessment. After examining the leading assessment tool (Spitzberg & Cupach, 1984) for several years, this tool obtained ten variables that constitute a valid measure of interpersonal skills. Compared with previous measures, the ICCS has greater content validity, since it taps into the multiple facets of ICC found in the literature of interpersonal relationships. Several studies (like Hullman et al., 2010; Wilkins et al., 2015; Pichler et al., 2018; Xu et al., 2018), have found that it is extremely useful for interpersonal communication training.

The ten dimensions of competence:

- Self-disclosure- Openness, the ability to reveal personality traits through communication. It is the basis for establishing interpersonal relationship. It must be appropriate to the person and the situation.
- Empathy- the ability to understand another person's perspective through emotional response to their internal state.
- Social relaxation- the ability to feel comfortable in social situations without anxiety, apprehension, or stress. the ability to deal with others' criticism or negative reactions without getting overwhelmed by it.
- Assertiveness- Standing up for one's own rights without denying any other person's rights.
- Interaction management-the ability to handle rituals in everyday conversation. It involves skills such as negotiating topics for discussion, taking turns, starting, and ending conversations, and developing conversation topics.
- Alter centricism- the ability to Understand what others say and how they talk and recognizing spoken and unspoken messages.
- Expressiveness- the ability to express feelings through nonverbal behaviors, such as facial expressions, gestures, and vocal modulations. Recent theory proposes that expressiveness is also based on communicating thoughts and feelings through speech (Rubin & martin, 1994)
- Supportiveness- the ability to confirm the other in a descriptive (not evaluative), provisional (not certain), spontaneous (not strategic) way. orientation towards solving a problem (not controlling), empathic (not remote), and egalitarian (not superior) communication style (Bochner & Kelly, 1974, cited in Rubin & martin, 1994).
- Immediacy- the ability to be seen as approachable and available for communication. "Immediacy is often communicated through nonverbal behaviors such as facing the other directly, adopting an open stance, having a pleasant facial expression, using direct eye contact, and leaning forward, as well as nonverbal behaviors that convey a feeling of interpersonal warmth, closeness, and affiliation" (Spitzberg & Hecht, 1987).
- Environmental control- the ability to meet predetermined goals and satisfy needs, to handle conflict situations and solve problems in a cooperative environment, and to gain compliance from others.

1.3 Big-Five personality inventory

The Big-Five Inventory (BFI) was developed in the late 1980s (John et al., 1991) as an extremely short measure of personality traits based on the characteristics Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Intellect or Openness to Experience. Introverted individuals are less talkative, assertive, outgoing, and shy than their extraverted counterparts. Often termed neuroticism, it is characterized by poor emotional adjustment resulting in stress, anxiety, and depression. Being agreeable involves attributes such as being courteous, cooperative, and trustworthy. Finally, conscientious individuals are described as being meticulous, thorough, organized, and well-planned (Rowold,2007).

The Big-five factor model appears to capture some of the most important and enduring personality traits, despite new traits being identified regularly (Maccroskey & Daly, 2011). These five factors tap dimensions of personality found in many other instruments. The Big-Five conceptual framework has played a significant role in theory development and still does (Rowold, 2007, De Raad & Mlacic, 2015). Several studies have used the Big-Five as a variable in the study of interpersonal skills, with mixed results (Dean et al., 2006; Kuntze et al., 2016, Sims, 2016). Due to limited assessment time, a demand for super-short measures

increased, and even researchers using the BFI requested a shorter version. Several samples indicate that, given its brevity, the BFI-10 has acceptable psychometric properties (Rammstedt & John, 2007). An extremely short version of the variable was successfully validated by Gosling et al (2003).

Several studies have examined ways to measure and assess the effectiveness of different forms of training to improve interpersonal skills (Salas et al, 2011). With a one-time training program, the present study examined how personality characteristics affect interpersonal communication skills.

2. Hypothesis

Human personality variations can be explained by the Big-Five across many cultures and languages. Furthermore, the Big-Five's biological basis has been demonstrated within different fields of study, including neuropsychology, developmental psychology, and evolutionary psychology (Sims, 2016). Social relationships are influenced by traits of the Big-Five, according to a growing body of research (Malouff, McCrae & Sutin, 2009; Thorsteinsson et al., 2010; Hahn et al., 2012; DeYoung, 2014, cited in Sims, 2016). In addition, the Big-Five have been linked to a variety of interpersonal behaviors during first interactions (Berry & Hansen, 2000; Cuperman & Ickes, 2009, cited in Sims, 2016). Numerous researchers have empirically explored the relationship between the Big-Five personality traits and interpersonal performance (Klein, 2009). In her study, Sims (2016), using the Big-Five model, explain differences in communication ability between individuals. An understanding of manifested IPS may require knowledge of personality traits. This suggestion is currently being empirically examined by researchers (Klein et al., 2008). As an example, Ferris et al., (2001) found that the five-factor traits explained about 20% of the variance in social skills.

There is generally agreement that the Big-Five personality traits are the gold standard criteria for all personality tests. Based on the theory discussed above, the following hypothesis is proposed:

Hypothesis 1: Personality traits are positively correlated with interpersonal communication improvement

H1: Big-5 personality traits will be positively related with improvement of interpersonal communication skills

H1.a: Agreeableness will be positively related with improvement of interpersonal communication skills

H1.b: Conscientiousness will be positively related with improvement of interpersonal communication skills

H1.c: Emotional stability will be positively related with improvement of interpersonal communication skills

H1.d: Extraversion will be positively related with improvement of interpersonal communication skills

H1.e: Openness to experience will be positively related with improvement of interpersonal communication skills

3. Methodology

In the current study, the goal was to examine the relationships between personality traits and the ability to improve interpersonal skills through one time training. Quantitative research was used. In the line with the study hypothesis, well-established and validated reflective scales from the literature were used to measure the constructs (BFI-5 items, ICCS-10 items). An online questionnaire was applied to collect the data, before and after the training, as detailed below. BFI was used as independent variables and ICCS as dependent.

3.1 Research tools

The methodology was action oriented. A training focused on the ten interpersonal competence skills enumerated in Rubin's work (Rubin & Martin, 1994). Training involved didactic teaching separated by demonstrations of specific communication skills and their consequences, discussion of difficulties in changing behavior, sharing experiences, identifying good and less effective communication skills from scenarios, and rehearsing effective communication skills in everyday scenarios. The participants complete a four-hour training session. The participants in the training complete the questionnaires twice: before and after the training. Assessment of interpersonal skills were based on self-reporting.

3.2 Measuring scales

ICC's: The research questionnaire used the Likert scale (1-5). The variable and dimensions were calculated by averaging the scores in the items of each dimension, creating a new scale of the quasi-interval type whose range is between 1-10.

BFI: The research questionnaire used the Likert scale (1-5). The variable and dimensions were calculated by averaging the scores in the items of each dimension, creating a new scale of the quasi-interval type whose range is between 1-5.

3.3 Research population and data collection

In this study, managers from diverse professional fields, managing level and experience backgrounds within business organizations of different sizes in Israel who manage interpersonal interactions, including internal and external factors, as part of their responsibilities were selected. Several training sessions were held on several dates during July 2022, November 2022, December 2022, January 2023, and February 2023 for the participants to voluntarily participate. Each training had between 18-25 participants due to its effectiveness limit. A total of 160 people attended the training. A total of 127 respondents completed the survey twice: 71 women and 56 men.

4. Findings

Hypothesis 1: Personality traits are positively correlated with interpersonal communication improvement

To examine the effect of personality traits on interpersonal communication skills, Pearson's correlation coefficient was used and compared between before and after the training.

Table 1: Pearson's correlation coefficient between Personality traits and Interpersonal communication skills

	Personality traits				
	Extraversio n	Agreeable ness	Conscientio us	Emotional stability	Openness To

					Ness				Experiences	
Interpersonal communication skills	Before	After	before	after	before	after	Before	after	before	After
Self-disclosure	.350*	.217*	.066	.086	.002	.092	.062	-.026	.126	-.020
Empathy	-.068	.177*	.252*	.265**	-.122	.164	.192*	.289**	.235*	.250**
Social relaxation	.249*	.262**	.182*	.208*	.150	.228**	.296*	.335**	.387*	.246**
Assertiveness	.085	.034	-.133	-.027	.121	.038	.107	.094	.141	.076
Altercentrism	.200*	.131	.039	-.005	-.050	-.137	-.064	-.011	.126	.093
Interaction management	.139	.140	.052	.143	.132	.197*	.173	.181*	.202*	.266**
Expressiveness	.226*	.210*	.131	.154	-.017	.185*	.111	.124	.278*	.162
Supportiveness	.034	.153	.425*	.434**	.172	.097	.265*	.165	.172	.192*
Immediacy	.192*	.111	.377*	.401**	.134	.210*	.301*	.258**	.281*	.253**
Environmental control	.160	.099	.068	.201*	.064	.105	.268*	.291**	.265*	.302**

(**) p<0.01; (*) p<0.05

A first objective of the study was to determine if there was a correlation between the numerous factors and the two variables, as well as to determine if there were differences in the correlations, their strength and direction following training. According to the table, there is some significant correlation between Personality traits and Interpersonal communication skills, as follows:

Personality traits – Extraversion:

The higher the level of **Extraversion** before participating in the training, the higher the level of **Self-disclosure**, while after participating in the training the correlation between these two variables is low and not significant. Also, the higher the level of **Extraversion**, both before and after participating in the training, the higher the level of **Expressiveness**. The higher the level of **Agreeableness**, the higher the probability of an elevated level of interpersonal communication skills, as listed: **Self-disclosure, Expressiveness, Supportiveness, Immediacy, and Environmental control.**

The findings show that following the training, the strength of the correlations is even higher compared to the correlations obtained in the questionnaire that the subjects filled out before the training.

The higher the level of **Conscientiousness**, the higher the probability of a higher level of interpersonal communication skills of **Social relaxation**, both before and after participating in the training. No significant relationships were found in the other factors of communication skills.

According to the findings, there were no significant correlations between Emotional stability and Interpersonal communication skills prior to participating in the training, whereas after taking part in the training, it was found that **Emotional stability** is correlated with communication skills such as **Expressiveness, Immediacy, and Environmental Control**.

The research also indicates a significant correlation of **Openness to Experiences** with various communication skills of the subjects, in about half of the factors tested. The most prominent figure in this context is regarding **Assertiveness**. Before participating in the training there was a high and significant positive correlation between **Openness to Experiences** and **Assertiveness**, while after the training the correlation was deleted.

Analyzing the changes before and after the training using Personality traits variable as an intervening variable

To examine whether the **personality traits** before the training are intervening variables in the changes of the respondents in the various parameters - **Interpersonal Communication Skills, Trust and Negotiation approach**, the sample was divided into two groups according to their ratings in the five dimensions of personality traits.

As a result of the 5 personality trait variables being measured on a scale ranging from 1-7, It was found that the distribution tends upwards for most variables, resulting in high medians. As a result, I decided not to divide based on the middle value, as that would result in an exceedingly small group of low values numerically. Therefore, I divided by the value between the middle and median.

Table 2: The distribution of the values of personality traits according to low/high

personality traits		N	%
Extraversion	Low (1-4)	71	55.9
	High (4.5-7)	56	44.1
Agreeableness	Low (1-4.5)	40	31.5
	High (5-7)	87	68.5
Conscientiousness	Low (1-5)	24	18.9
	High (5.5-7)	103	81.1
Emotional stability	Low (1-4.5)	37	29.1
	High (5-7)	90	70.9
Openness to Experiences	Low (1-4.5)	39	30.7
	High (5-7)	88	69.3

The findings presented below are limited to those that demonstrate that personality traits variables affect changes in the ratings of respondents following the training.

Extraversion (Personality traits) variable as an intervening variable

An analysis was conducted using Dawson's (2014) approach to examine the regression coefficients associated with low (one standard deviation below the mean) and high (one standard deviation above the mean) levels of Extraversion. A significant interaction was found by **Extraversion** (low/high) in the **Self-disclosure** variable $F=4.72$; $p<.05$: The average rating of the **Self-disclosure** among the low Extraversion group increased following

participation in the training (from 3.7 to 3.8), while among high Extraversion group the average ratings of **Self-disclosure** decreased following the training (from 4.0 to 3.9). Before the training there was a significant gap between the two groups in self-disclosure ratings, while participation in the training narrowed the gap to a small difference.

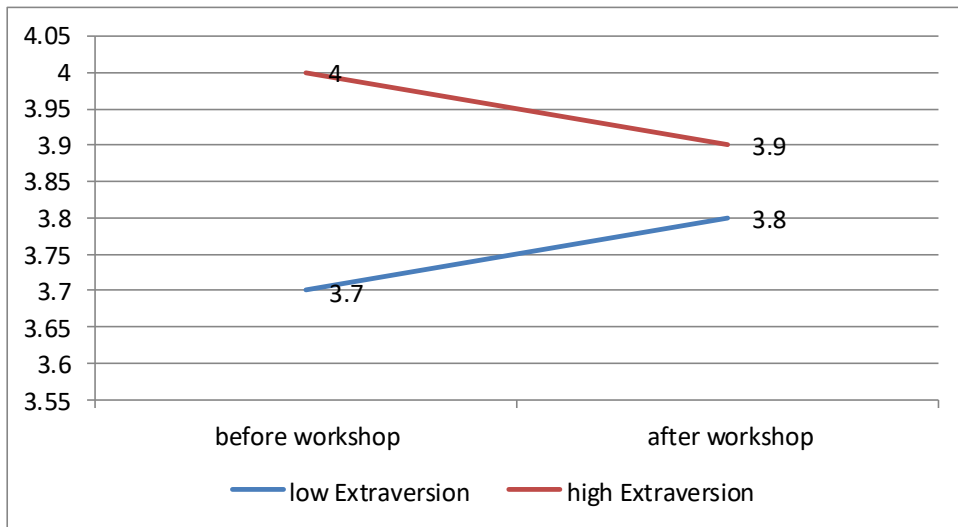


Figure 1: Average rates of Self-disclosure, before and after the training

An interaction was found by **Extraversion** (low/high) in the **Assertiveness** variable $F=3.58$; $p=.060$: The average rating of the **Assertiveness** among the low Extraversion group increased following participation in the training (from 3.2 to 3.5), while among high Extraversion group the average ratings of **Assertiveness** decreased following the training (from 3.6 to 3.4). Before the training there was a significant gap between the two groups in **Assertiveness** ratings, while participation in the training narrowed the gap to a small difference.

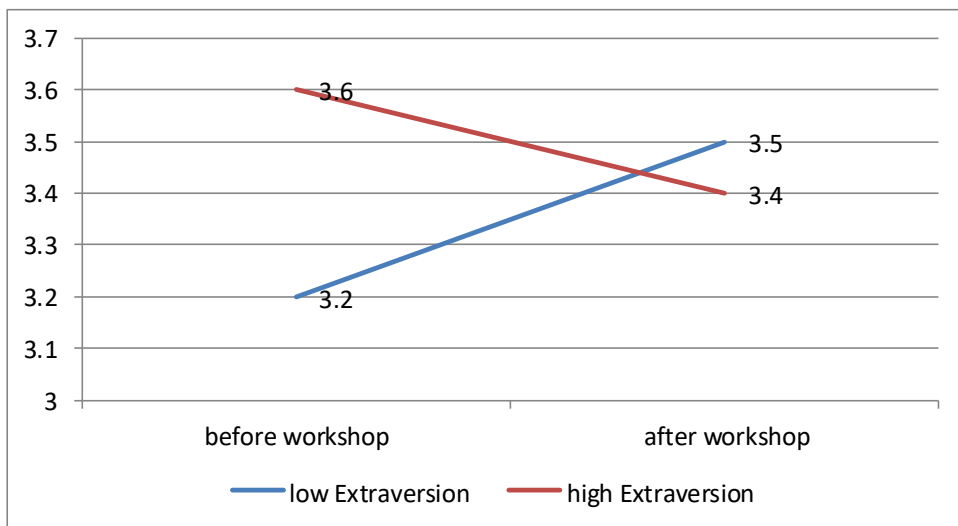


Figure 2: Average rates of Assertiveness, before and after the training

An interaction was found by **Extraversion** (low/high) in the **Empathy** variable $F=3.39$; $p=.068$: The average rating of the **Empathy** among the low Extraversion group decreased following participation in the training (from 4.2 to 4.1), while among high Extraversion group

the average ratings of **Empathy** increased following the training (from 4.2 to 4.3). Before the training there was no gap between the two groups in **Empathy** ratings, while participation in the training increased the gap between the groups.

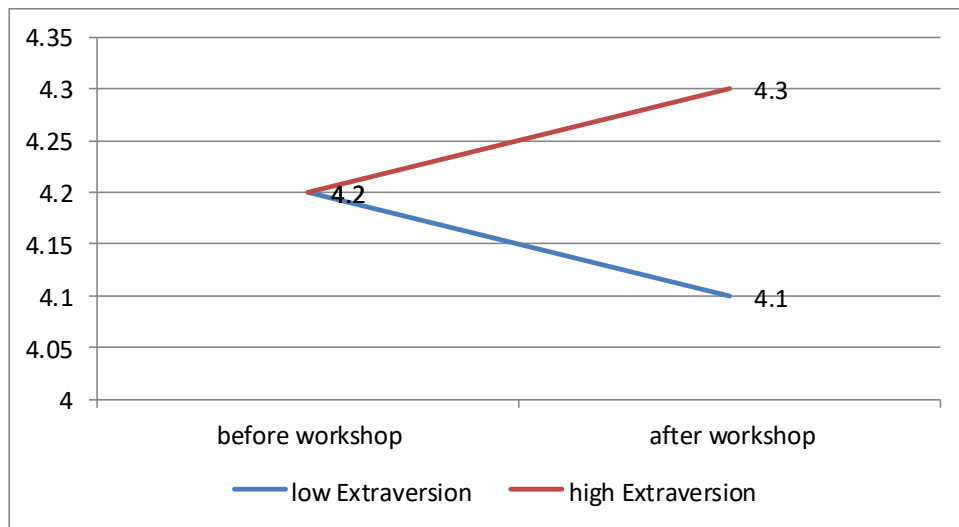


Figure 3: Average rates of Empathy, before and after the training

Agreeableness (Personality traits) variable as an intervening variable

An analysis was conducted using Dawson's (2014) approach to examine the regression coefficients associated with low (one standard deviation below the mean) and high (one standard deviation above the mean) levels of Agreeableness. No significant interactions were found at all according to Agreeableness as an intervening variable in the changes in the ratings of the respondents following the training.

Conscientiousness (Personality traits) variable as an intervening variable

An analysis was conducted using Dawson's (2014) approach to examine the regression coefficients associated with low (one standard deviation below the mean) and high (one standard deviation above the mean) levels of Conscientiousness. A significant interaction was found by **Conscientiousness** (low/high) in the **Assertiveness** variable $F=4.82$; $p<.05$: The average rating of the **Assertiveness** among the low Conscientiousness group increased following participation in the training (from 3.1 to 3.5), while among high **Conscientiousness** group the average ratings of **Assertiveness** almost didn't change following the training (3.3, 3.4).

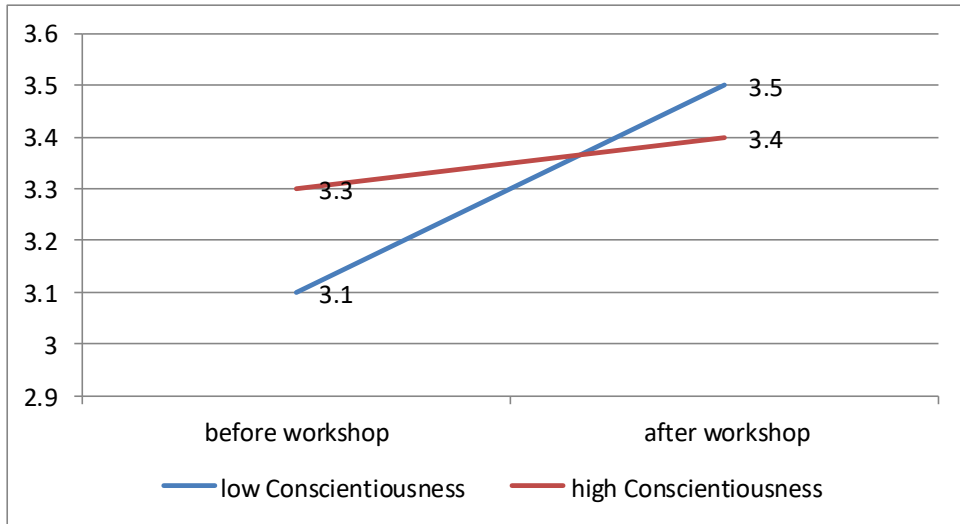


Figure 4: Average rates of Assertiveness, before and after the training

An interaction was found by **Conscientiousness** (low/high) in the **Supportiveness** variable $F=3.78$; $p=.054$: The average rating of the **Supportiveness** among the low Conscientiousness group increased following participation in the training (from 3.7 to 3.9), while among high **Conscientiousness** group the average ratings of **Supportiveness** didn't change at all following the training (3.8).

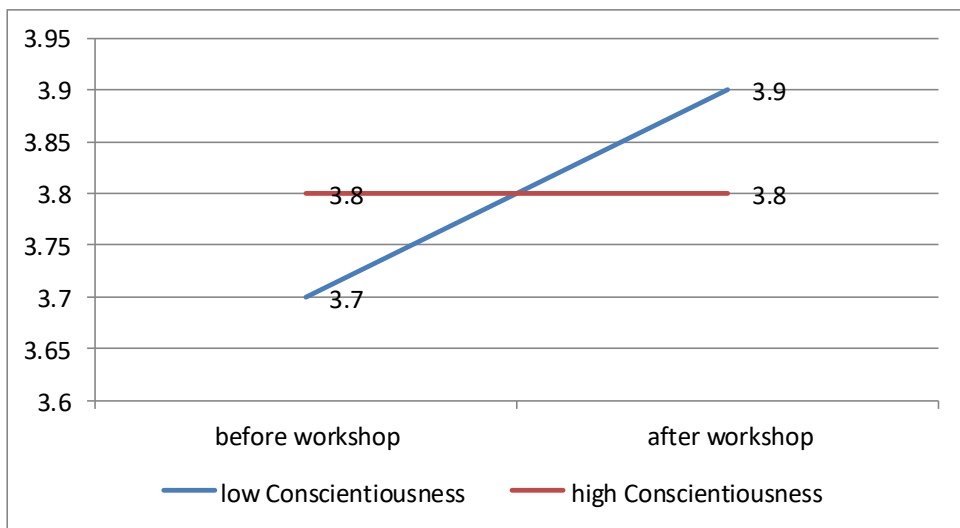


Figure 5: Average rates of Supportiveness, before and after the training

Emotional stability (Personality traits) variable as an intervening variable

An analysis was conducted using Dawson's (2014) approach to examine the regression coefficients associated with low (one standard deviation below the mean) and high (one standard deviation above the mean) levels of Emotional stability. No significant interactions were found at all according to Emotional stability as an intervening variable in the changes in the ratings of the respondents following the training.

Openness to Experiences (Personality traits) variable as an intervening variable

An analysis was conducted using Dawson's (2014) approach to examine the regression coefficients associated with low (one standard deviation below the mean) and high (one standard deviation above the mean) levels of Openness to Experiences. A significant interaction was found by **Openness to Experiences** (low/high) in the **Self-disclosure** variable $F=5.81$; $p<.05$: The average rating of the **Self-disclosure** among the low **Openness to Experiences** group increased following participation in the training (from 3.7 to 3.9), while among high **Openness to Experiences** group the average ratings of **Self-disclosure** decreased a little following the training (from 3.9 to 3.8).

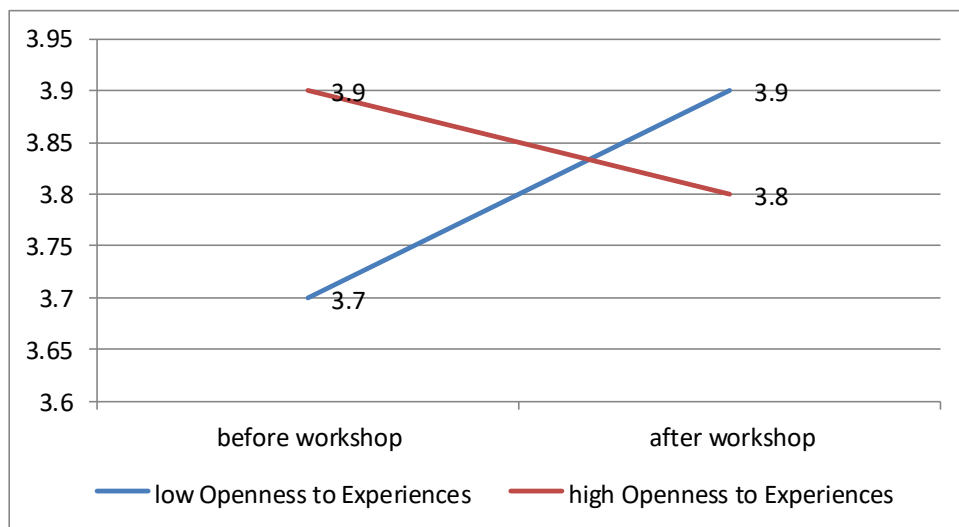


Figure 6: Average rates of Self-disclosure, before and after the training

An interaction was found by **Openness to Experiences** (low/high) in the **Expressiveness** variable $F=2.83$; $p=.095$: The average rating of the **Expressiveness** among the low **Openness to Experiences** group increased a little following participation in the training (from 3.7 to 3.8), while among high **Openness to Experiences** group the average ratings of **Expressiveness** decreased a little following the training (from 4.0 to 3.9). Following the participation in the training, the gap in ratings between the two groups narrowed.

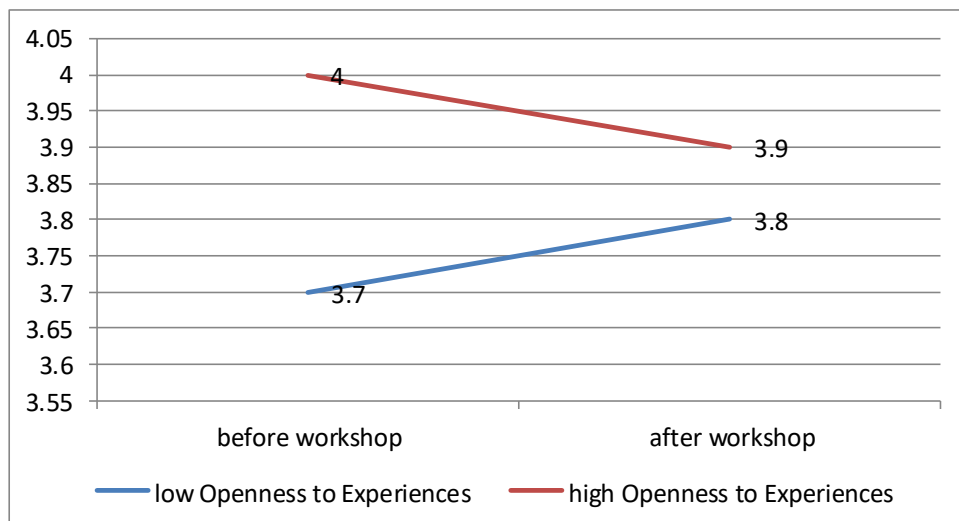


Figure 1: Average rates of Expressiveness, before and after the training

An interaction was found by **Openness to Experiences** (low/high) in the Immediacy variable $F=3.46$; $p=.065$: The average rating of the Immediacy among the low **Openness to Experiences** group increased a little following participation in the training (from 4.0 to 4.1), while among high **Openness to Experiences** group the average ratings of Immediacy decreased a little following the training (from 4.4 to 4.3). Following the participation in the training, the gap in ratings between the two groups narrowed.

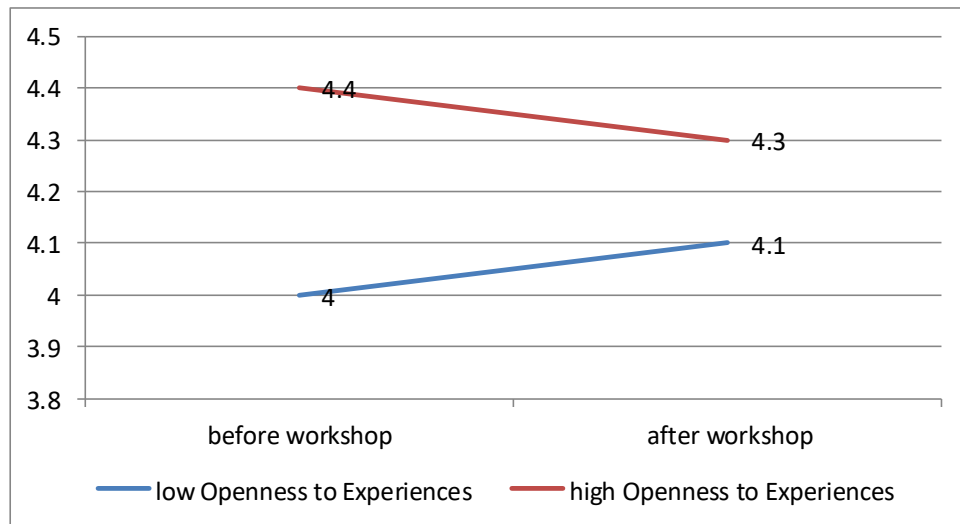


Figure 2: Average rates of Immediacy, before and after the training

4.1 Findings summary

Based on the findings, it can be said that the results partially support the hypothesis H1 a-e that personality traits are related to interpersonal communication skills improvement.

A significant improvement was found in the **Emotional stability** following the training. Participating in the training changed the way people associate personality traits with **Interaction management**.

Assessing the changes before/after the training, with an Intervening variable

Extraversion (Personality traits)

- Among people with **Low extraversion**, the level of **Self-disclosure** increased after the training, compared to those with high extraversion who showed the opposite trend. Before the training there was a significant gap between the two groups in the Self Disclosure ratings, while participation in the training reduced the gap to a small difference.
- Among people with **High extraversion**, the level of **Empathy** increased after the training, compared to those with low extraversion who showed the opposite trend. Before the training there was no gap between the two groups in **Empathy** ratings, while participation in the training increased the gap between the groups.
- Among people with **Low extraversion**, the level of **Assertiveness** increased after the training, compared to those with high extraversion who showed the opposite trend. Before the training there was a significant gap between the two groups in **Assertiveness** ratings, while participation in the training narrowed the gap to a small difference.

- Among people with low extraversion, the level of **Competing** did not change after the training, compared to those with high extraversion who showed strong decreased.
- Among people with low Extraversion the level of **Accommodating** didn't change following participation in the training, while among people with high Extraversion the ratings of Accommodating increased following the training. Before the training there was a gap between the two groups in Accommodating ratings, while participation in the training narrowed the gap to a small difference.

Conscientiousness (Personality traits)

- Among people with **low Conscientiousness** the level of **Assertiveness** increased following the training, while among people with high Conscientiousness the level of Assertiveness almost didn't change.
- Among people with **low Conscientiousness** the level of **Supportiveness** increased following the training, while among people with high Conscientiousness the level of **Supportiveness** didn't change at all following the training.

Openness to Experience (Personality traits)

- Among people with **low Openness to Experience** the level of **Self-disclosure** increased following the training, while among people with high Openness to Experience the level of Self-disclosure decreased a little following the training.
- Among people with **low Openness to Experience** the level of **Expressiveness** increased a little following the training, while among people with high Openness to Experience the level of **Expressiveness** decreased a little following the training. Following the training, the gap between the two groups narrowed.
- Among people with low Openness to Experience the level of **Immediacy** increased a little following the training, while among people with high Openness to Experience the level of **Immediacy** decreased a little following the training. Following the training, the gap between the two groups narrowed.

5. Discussion and conclusions

In Klein's (2009) study, among the personality variables, extraversion showed the strongest relationships with Interpersonal communication skills. It could be argued that extroverts develop stronger social bonds with others through purity number of interactions. At the same time, each of the other personality variables assessed in this research proved worthy of consideration, as each of them were related to various interpersonal skills in important ways. Several other studies, such as Rowold (2007), have provided mixed findings regarding how personality characteristics affect interpersonal skills.

The current study verified the effect of personality characteristics on the improvement in interpersonal communication skills, albeit in a relatively weak manner. A more in-depth examination of an intervening variable found that those with more solid personality characteristics such as low extraversion and high conscientiousness made an improvement in skills that require more activity such as assertiveness empathy supportiveness, open to experience and self-disclosure, while those with less solid personality characteristics showed a smaller improvement or even decreased in these skills following the training. These findings confirm the findings of Hullman et al., (2010), which revealed that extraverts, agreeable, conscientious individuals, and individuals with a high degree of self-efficacy, based on their own assessments, exhibit higher levels of self-disclosure, social relaxation, expressiveness, immediacy, and empathy. As such, this set of skills represents half of the competencies examined in the study, in addition to representing a mix of self-oriented and other-oriented skills.

Interestingly, a link emerged between those with an elevated level of extraversion and assertiveness, but a low level of agreeableness and conscientiousness (outgoing incompetence). These variables did not correlate with immediacy, supportiveness, alter centrism, or empathy, as stated by Hullman et al., (2010). In the current study, individuals with high extraversion demonstrated an increase in empathy following the training, as opposed to those with low extraversion, who demonstrated the opposite result. The level of assertiveness increased after the training among individuals with low extraversion, whereas the level of assertiveness decreased among individuals with high extraversion. However, the training narrowed the gap to a small amount.

Therefore, the ability to improve interpersonal communication skills justifies identifying the influencing factors. Because these skills are important in the labor market and companies invest in these types of training, it is necessary to isolate these factors in order to optimize and refine the training so that organizations can gain a high ROI on their investment.

6. References

Dawson, J.F. (2014). Moderation in Management Research: What, Why, When, and How. *Journal of Business and Psychology*, [online] 29(1), pp.1–19. doi:<https://doi.org/10.1007/s10869-013-9308-7>.

De Raad, B. and Mlacic, B. (2015). Big Five Factor Model, Theory and Structure. *International Encyclopedia of the Social & Behavioral Sciences*, Vol 2. Oxford: Elsevier. pp. 559–566(2nd edition,). pp.559–566. doi:<https://doi.org/10.1016/b978-0-08-097086-8.25066-6>.

Ferris, G.R., Witt, L.A. and Hochwarter, W.A. (2001). Interaction of social skill and general mental ability on job performance and salary. *Journal of Applied Psychology*, 86(6), pp.1075–1082. doi:<https://doi.org/10.1037/0021-9010.86.6.1075>.

Gosling, S.D., Rentfrow, P.J. and Swann, W.B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37(6), pp.504–528. doi:[https://doi.org/10.1016/s0092-6566\(03\)00046-1](https://doi.org/10.1016/s0092-6566(03)00046-1).

Hullman, G.A., Planisek, A., McNally, J.S. and Rubin, R.B. (2010). Competence, Personality, and Self-Efficacy: Relationships in an Undergraduate Interpersonal Course. *Atlantic Journal of Communication*, 18(1), pp.36–49. doi:<https://doi.org/10.1080/15456870903340506>.

Hutchins, S., Mcdermott, P., Carolan, T., Gronowski, M., Fisher, A. and Demay, M. (2013). *Interpersonal Skills Summary Report*. [online] Available at: <https://apps.dtic.mil/sti/pdfs/ADA585788.pdf> [Accessed 19 Jun. 2021].

John, O.P., Donahue, E.M. and Kentle, R.L. (1991). Big Five Inventory. *PsycTESTS Dataset*. doi:<https://doi.org/10.1037/t07550-000>.

Klein, C. (2009). What Do We Know About Interpersonal Skills? A Meta-analytic Examination Of Antecedents, Outcomes, And The Efficacy Of Training. *Electronic Theses and Dissertations, 2004-2019*. [online] Available at: <https://stars.library.ucf.edu/etd/3950/> [Accessed 19 Jun. 2021].

Levy, F. and Murnane, R.J. (2004). Education and the Changing Job Market. *Educational Leadership*, [online] 62(2), p.80. Available at: <https://eric.ed.gov/?id=EJ716780>.

Mitchell, G. (2021). Essential Soft Skills for Success in the Twenty-First Century Workforce as Perceived by Alabama Business/Marketing Educators. *etd.auburn.edu*. [online] Available at: <https://etd.auburn.edu/handle/10415/1441> [Accessed 23 Jul. 2021].

Mumford, M.D., Peterson, N.G. and Childs, R.A. (1999). Basic and cross-functional skills. *An occupational information system for the 21st century: The development of O*NET.*, pp.49–69. doi:<https://doi.org/10.1037/10313-004>.

Payne, H.J. (2005). Reconceptualizing Social Skills in Organizations: Exploring the Relationship between Communication Competence, Job Performance, and Supervisory Roles. *Journal of Leadership & Organizational Studies*, 11(2), pp.63–77. doi:<https://doi.org/10.1177/107179190501100207>.

Pichler, S.M., Beenen, G. and Livingston, B.A. (2018). Development and Validation of a Measure of Managerial Interpersonal Skills (MIPS). *Academy of Management Proceedings*, 2018(1), p.15269. doi:<https://doi.org/10.5465/ambpp.2018.15269abstract>.

Rammstedt, B. and John, O.P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, 41(1), pp.203–212. doi:<https://doi.org/10.1016/j.jrp.2006.02.001>.

Robles, M.M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75(4), pp.453–465. doi:<https://doi.org/10.1177/1080569912460400>.

Rubin, R.B. and Martin, M.M. (1994). Development of a measure of interpersonal communication competence. *Communication Research Reports*, 11(1), pp.33–44. doi:<https://doi.org/10.1080/08824099409359938>.

Salas, E., Bedwell, W.L. and Fiore, S.M. (2011). *Developing the 21st Century (and beyond) Workforce: A Review of Interpersonal Skills & Measurement Strategies*. University of Central Florida. Department of Psychology
Workshop of Assessment of 21st Century Skills.

Sims, C.M. (2016). Do the Big-Five Personality Traits predict Empathic listening and assertive Communication? *International Journal of Listening*, 31(3), pp.163–188. doi:<https://doi.org/10.1080/10904018.2016.1202770>.

Spitzberg, B.H. and Cupach, W.R. (1984). *Interpersonal communication competence*. Beverly Hills, Calif.: Sage.

Spitzberg, B.H. and Hurt, T.H. (1987). The measurement of interpersonal skills in instructional

contexts. *Communication Education*, 36(1), pp.28–45.
doi:<https://doi.org/10.1080/03634528709378639>.

Wilkins, K.G., Bernstein, B.L. and Bekki, J.M. (2015). Measuring Communication Skills: The STEM Interpersonal Communication Skills Assessment Battery. *Journal of Engineering Education*, 104(4), pp.433–453. doi:<https://doi.org/10.1002/jee.20100>.

Xu, S., Yang, H.H., MacLeod, J. and Zhu, S. (2018). Interpersonal communication competence and digital citizenship among pre-service teachers in China's teacher preparation programs. *Journal of Moral Education*, 48(2), pp.179–198. doi:<https://doi.org/10.1080/03057240.2018.1458605>.