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## THE RELATIONSHIP BETWEEN CONSCIENTIOUSNESS AND COOPERATION: THE MEDIATING ROLE OF SOCIABILITY

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### **Abstract**

*This paper tries to determine whether there is an association between conscientiousness and cooperation and whether this relationship is mediated by sociability. Conscientiousness, cooperation and sociability are psychological constructs that have an important role in an individual's life, therefore it is important to determine in which way the relationship between these variables can improve the quality of life and the expression of adaptive behaviours. Regardless of age, conscientiousness is a trait that can be found in both children and adults and it has many benefits for the quality of life because it has an important role in many life outcomes.*

*The findings of this study shown that although sociability doesn't have a strong mediating role on the relationship between conscientiousness and cooperation, conscientiousness predicts cooperation.*

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**Keywords:** *conscientiousness, cooperation, sociability*

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## 1. INTRODUCTION

### 1.1. Conscientiousness

Conscientiousness is one of the most studied dimensions of The Big Five model of personality (Barrick & Mount, 1991) which also includes extraversion, agreeableness, neuroticism, and openness.

Although, conscientiousness is one of the five-factor model of personality, constructs related to conscientiousness were discussed as far back as Aristotle and

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are included in classic personality taxonomies established by Cattell (1957), Eysenck (1998), Gough (2000) and Tellegen and Waller (2008).

Individuals who score high on the conscientiousness scale are dutiful and diligent (McCrae & John, 1992), are more reliable, have a stronger work ethic, have more self-discipline (McCrae & Costa, 1987), tend to follow social norms for impulse control, are goal directed, planful and are able to delay gratification (Roberts, Bogg, Walton, Chernyshenko & Stark, 2004).

More than that, studies (McCrae, 1993) confirm that conscientiousness is a personality trait that tends to be stable during the adulthood.

Conscientiousness is one of the most important predictors of academic achievement (Noftle and Robins, 2007). Students that are conscientious at school tend to have higher grades, especially the ones that have a better impulse control (MacCann, Duckworth & Roberts, 2009; Noftle & Robins, 2007; Paunonen & Ashton, 2001). Conscientious students have better grades because they are more focused on their assignments and they make an effort to achieve academic performances. They are more motivated than the other students (Richardson & Abraham, 2009) and they believe in their potential to succeed (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011).

Studies have found a positive association between conscientiousness and occupational status (Judge et al., 1999) and with job performance (Barrick & Mount, 1991). It was also found that conscientiousness predicts financial outcomes (Shaffer, 2020) because individuals high on conscientiousness tend to have higher incomes (Judge et al., 1999) and net worth (Letkiewicz & Fox, 2014). Conscientious individuals have greater career achievements (Spurk & Abele, 2011), better attitudes toward their work (Bowling & Burns, 2010; Ng et al., 2005), show more commitment to their jobs, and work well independently as well as in groups (Spurk & Abele, 2011; Sutin & Costa, 2010).

Costa, McCrae and Dye (1991) suggests that conscientiousness reflects a human need for achievement and commitment to work. Conscientiousness consists of six facets: order, achievement string, deliberation, self-discipline, dutifulness and competence.

Regarding conscientiousness, we must take into account the moral side such as the consideration of future consequences (CFC). Previous studies (Joireman et al., 2008; Joireman, Strathman & Balliet, 2006; Adams & Nettle, 2009; Gick, 2014; Lafreniere & Cramer, 2006; Strathman et al., 1994) have shown that some personality factors such as conscientiousness, impulsivity, ability to delay of gratification and self-control are related to consideration of future consequences (CFC). While conscientiousness is a general and comprehensive concept, consideration of future consequences (CFC) is a domain-specific trait (Cao & Xia, 2020).

Regarding the organizational field, conscientious individuals tend to avoid stealing and drinking during the working hours, to be late or absent at work and they are less likely to quit their jobs (Bowling & Burns, 2010; Roberts et al., 2007).

Conscientiousness is an important factor also for the love life. Conscientious individuals are less likely to get divorced (Solomon & Jackson, 2014a) because they tend to have higher levels of commitment and relationship satisfaction (Dyrenforth, Kashy, Donnellan & Lucas, 2010; Solomon & Jackson, 2014b) and they are less likely to cheat on their partner (Buss & Shackelford, 1997). Also, conscientious people are more forgiving (Hill & Allemand, 2012) and instead of fighting, they tend to solve the problem (Baker & McNulty, 2011).

### 1.2. Cooperation

Cooperation is one of the most valuable processes of the human being. The process of cooperation has several benefits regarding the human interactions and the societal and economic development (Sutter & Untertrifaller, 2020).

It is important to determine if the cooperation between individuals is a natural process or is determined by the possibility of punishment. Also, an interesting question is whether people cooperate naturally or they do it just because other people do so. Studies (Keser & van Winden, 2000; Fischbacher, Gächter, & Fehr, 2001) have shown that while some people only cooperate if others do so too, there are others who either cooperate or do everything by themselves.

It is important to understand the willingness of cooperation. Sutter and Untertrifaller (2020) have conducted an experimental study on 328 children aged between 4 - 5 years old. The researchers let the children play the prisoners' dilemma game with their parents. The prisoners' dilemma game is the most well-known and one of the most heavily studied games that captures the conflict between short-term losses and the long-term benefit of cooperation. The results of the study have shown that there is an association between the children's likelihood to cooperate in a prisoner's dilemma game and their parents' education. More exactly, if the parents hold a high-school or university degree, the children was more likely to cooperate compared to the children whose parents followed less than 13 years of schooling. Also, it was found a positive association between the parents' cooperation rate and the children's cooperation rate.

### 1.3. Sociability

Sociability is an important dimension of personality (Brook & Schmidt, 2020). A definition of sociability may be a preference for being with others rather than being alone (Cheek & Buss, 1981).

Sociability is a determinant factor of the human condition because it has influences on human behavior (Cheek & Buss, 1981; Mitrofan, Gatej, 2019).

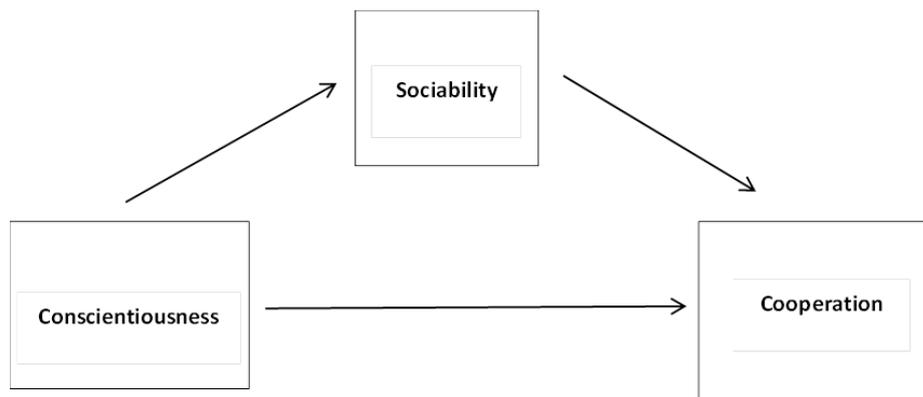
During childhood and adolescence, cooperation is associated to approach motivations that are reinforced through social-rewards (Shiner & DeYoung, 2013).

Higher levels of sociability determine the adaptive behavior, but has also been found as a risk factor for maladaptive behavior (Santesso, Schmidt, & Fox, 2004).

Sociability was also studied from the perspective of groups dynamics. Thus, it was discovered that groups that are characterized by a medium level of sociability tend to be less successful (Leach, Ellemers, & Barreto, 2007) than the ones that are characterized by high levels of sociability.

Due to the lack of information in the literature about the role of sociability in individual's life, it is important to analyse whether there is an association between sociability, cooperation and conscientiousness. Whether we are talking about the academic environment or about the organizational field, sociability is an important factor in people's lives because it determines the social connections established by an individual, as well as his appurtenance to a social group.

Thus, we propose the following concept model (Figure 1).



*Figure 1. The concept model*

## **2. OBJECTIVE AND HYPOTHESES**

### **2.1. Objective**

The main objective of this study is to identify a possible association between conscientiousness and cooperation. Another objective is to identify the mediating role of sociability on the relationship between conscientiousness and cooperation. Conscientiousness, cooperation and sociability are psychological constructs that have an important role in an individual's life, therefore it is important to determine

in which way the relationship between these variables can improve the quality of life and the expression of adaptive behaviours.

## 2.2. HYPOTHESES

*Hypothesis 1.* There is a correlation between conscientiousness and cooperation.

*Hypothesis 2.* There is a correlation between conscientiousness and sociability.

*Hypothesis 3.* There is a correlation between sociability and cooperation.

*Hypothesis 4.* The relationship between conscientiousness and cooperation is mediated by sociability.

## 3. METHOD

### 3.1. PARTICIPANTS AND PROCEDURE

The sample included 142 Romanian participants, 84.5 % women ( $n = 120$ ) and 15.5 % men ( $n = 22$ ). The average age of the sample was 29.40 ( $SD = 9.77$ ). The study was conducted on a non-random convenience sample. All of the participants are students at Hyperion University, Faculty of Psychology and Educational Sciences. For data collection we used social media platforms. Thus, participants received the link to the questionnaire via their social media platforms. On the first page of the questionnaire were information about the purpose of the study and about the confidential aspect of the data collection.

### 3.2. MEASURES

*Conscientiousness* was measured using the Factor III [Conscientiousness] 10-item scale (Goldberg et al., 2006). The scale contains 10 items (e.g., “Pay attention to details”). The items were scored on a five – point scale (1 = *entirely false* to 5 = *entirely true*).

*Cooperation* was measured using the Cooperation Scale (Goldberg et al., 2006) that contains 12 items (e.g., “Value cooperation over competition”). The items were scored on a five – point scale (1 = *entirely false* to 5 = *entirely true*).

*Sociability* was measured using the Sociability Scale (Goldberg et al., 2006). The scale contains 10 items (e.g., “Can’t do without the company of others”). The items were scored on a five – point scale (1 = *entirely false* to 5 = *entirely true*).

## 4. RESULTS

In order to test possible correlations evoked by the first three hypotheses we ran the Pearson Correlation procedure using the SPSS® program. The results shown below (Table 1) revealed a significant correlation ( $p < .01$ ) but of low intensity ( $r = .28$ ) between cooperation and conscientiousness which supports hypothesis 1. Hypothesis 2 and 3 were not supported by the results.

We also calculated Cronbach's alpha reliabilities for each scale. The Conscientiousness scale has a Cronbach's alpha of .76, the Cooperation scale has a Cronbach's alpha of .58, while the Sociability scale has a Cronbach's alpha of .70. All of the values are above the threshold limit (.70), except the Cooperation scale.

Table 1. Correlations between the variables

	1	2	3
1. Conscientiousness	(.76)		
2. Cooperation	.28**	(.58)	
3. Sociability	-.04	-.13	(.70)

*Note.* Cronbach's alpha reliabilities are in parentheses on the diagonal, \*\* correlation is significant at the 0.01 level (2-tailed).

In order to test hypothesis 4, we run the mediation analysis using PROCESS by Andrew Hayes which is a program associated to SPSS® program. The results shown a weak indirect effect which means that sociability doesn't have a significant mediating role on the relationship between conscientiousness and cooperation. Although sociability is not a strong mediator for the relationship between conscientiousness and cooperation, hypothesis 4 was sustained by the results. However, we obtained a significant direct effect which means that conscientiousness influences cooperation.

## 5. CONCLUSIONS

The findings of this study indicate that conscientiousness predicts cooperation between people. This finding supports the results of other studies (Spurk & Abele, 2011; Sutin & Costa, 2010) that showed that people high on conscientiousness tend to work well in groups. This is an important outcome of this study because both variables are part of the human personality (Barrick & Mount, 1991; Rizeanu, 2020). The results of this study support the findings of other studies (Hill & Allemand, 2012) that showed that people high on conscientiousness tend to cooperate more with other individuals which contributes to creating social connections and romantic relationships. Although, the results showed a weak mediating role of sociability on the relationship between conscientiousness and cooperation, we recommend for future studies to use more participants and a random sample in order to obtain more accurate results.

The finding of this study bring a significant understanding both in the field of social psychology and organizational psychology because it tries to explain the individuals adaptive behaviours and the way that people tend to form social connection.

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