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## The Relationship between Reflective Functioning and Alexithymia

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### ABSTRACT

**Background:** The aim of this study was to verify the relationship between the construct of reflective functioning and the construct of alexithymia, taking also into account the role of gender differences.

**Methods:** Participants in the study were 216. Every participant had an Italian nationality and ages ranging from 18 to 30 (50% males), and were recruited through social networks. Participants completed a sociodemographic questionnaire, the Toronto Alexithymia Scale (TAS-20), and the Reflective Functioning Questionnaire (RFQ-8).

**Results:** The findings of the study showed that alexithymia scores were associated with reflective functioning scores. In particular, results showed that certainty of mental states was negatively correlated with alexithymia, while uncertainty of mental states was positively correlated with alexithymia. Certainty of mental states was also negatively with an externally-oriented thinking, while uncertainty of mental states was not significantly correlated with an externally-oriented thinking. Furthermore, effects on gender were also found. In particular, results showed that the difficulty in describing feelings was higher for males.

**Conclusions:** These results might help to extend the current correlational studies of this field. By a clinical point of view, the findings of this study might encourage the choice of different approaches in the treatments of patients with both alexithymic and reflective functioning issues.

**Keywords:** *Alexithymia; Reflective Functioning; Mentalization*

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## Introduction

The reflective functioning can be considered as the manifestation of the ability of mentalizing (Suchman, et al., 2016). Mentalization can be interpreted as the human ability of understanding the behavior in relation to mental states, such as thoughts, feelings, intentions, desires (Allen, Fonagy, & Bateman, 2008). Reflective functioning evolved to permit to men to predict and interpret the actions of the others in a fast and efficient way, in a wide range of cooperative and competitive situations (Fonagy & Allison, 2012). However, the degree to which everyone is able to master this fundamental ability is strongly influenced both by our own experiences and by our genetic heritage (Fonagy & Allison, 2012). Through the attribution of thoughts and feelings, reflective functioning permits the individual to give meaning to the actions of the others, reducing the dependence on others to explicit the meaning of their behavior (Fonagy, et al., 1998). Reflective functioning assumes a key role also in communication. Without a clear representation of the mental state of the other, communication is severely limited (Fonagy, et al., 1998). As suggested by Main and Goldwyn (1994), conversation is based upon the principle of collaboration, according to which the communicating subject needs to keep in mind the point of view of the other.

The incapacity of identifying and describing emotions with words is known with the term “alexithymia” (Sleuwaegen, et al., 2017), which, translated directly from Latin, means “lack of words for emotions”. In general, it can be affirmed that alexithymia is a psychological construct, which largely describes individual with a deficit in the processing and awareness of emotions (Sifneos, 1967). In literature, the conceptualization of alexithymia includes three main factors: 1) difficulty in identifying feelings and distinguish between feelings and body sensations of emotional arousal; 2) difficulty in describing and describing the feelings of the others; 3) an externally-oriented style of thinking (Taylor, Bagby, & Parker, 1997). Is now common knowledge that emotions play a social role of fundamental importance (Messina, Beadle, & Paradiso, 2014). Basic emotions, such as fear, often promote affiliation between individuals, because feared individuals may search support from the group and use the resources of that group against a real or imaginary enemy (Eibl-Eibesfeldt, 1971). Other emotions, such as envy, or other abilities strongly connected to emotions, such as empathy, are equally social in nature (Eibl-Eibesfeldt, 1971). In a relatively recent study, it has been demonstrated that reduced level of empathy is associated with a higher level of solitude (Beadle, Brown, & Keady, 2012). Individuals with high scores on alexithymia show a series of difficulty in relating with others, including interpersonal ambivalence, need of social approval, poor sociability (Nicolò, Semerari, & Lysaker, 2011; Messina, Fogliani, & Paradiso, 2010).

Recently, in research, there has been a growing interest with regard to the study of the regulating processes of the emotions, which are now interpreted as essential in the birth and maintenance of a

wide range of mental disorders, as well as being seen as fundamental components of the mentalization processes of the individual (Liotti, 2005).

Reflective functioning and alexithymia might be considered as related constructs, as both concern cognitive and emotive aspects. Reflective functioning, besides the understanding of the mental states, can be interpreted, including in its construct, processes related to the management, modulation and regulation of the emotional dimension, needed to both understand and manage, intentions, beliefs, desires, feelings. For this reason, reflective functioning needs good abilities of emotional modulation and self-regulation, processes severely altered in alexithymic subjects. Wallin (2007) found a negative association between the ability of mentalizing and alexithymia. A few other studies have also confirmed that alexithymia is associated to a higher level of impairment in mentalization, which in turn is connected with the incapacity to assume the point of view of the others (Swart, Kortekaas, & Aleman, 2009; Moriguchi, et al., 2006).

It must also be underlined that both constructs are highly associated with several psychopathologies. In particular, research shows strong associations with several emotional disorders (Górska & Marszał, 2014; Arancibia & Behar, 2015; Li, Motan & Gençöz, 2007), personality disorders (Bender, Morey, & Skodol, 2011; De Panfilis, et al., 2008), eating disorders (D'Onofrio, Pace, & Cavanna, 2015; Pinaquy, et al., 2003). Several studies show that alexithymia seems to concern at least 35% of all the clinical population.

Reflective functioning and alexithymia both also concern “sane” individuals. Alexithymia seems to cover at least 10% of all the general population (Franz, et al., 2008; Mattila, et al., 2006). Reflective functioning is a fundamental ability of the human development, which individuals acquire in an appropriate way if no other risk factors are involved during the development of the ability. Being intrinsic to the human development, reflective functioning is a construct necessarily associated with both the clinic and general population.

Considering all the above, the identification and assessment of reflective functioning and alexithymia in clinical environments is of high importance, in particular if these actions can be put in place before the real psychological treatment begins. While it has been showed that individual with alexithymia might not receive the full benefit from psychotherapy, because a poor access and communication of personal emotions are negative prognostic factors (Ogrodniczuk, Piper, & Joyce, 2011), the ability of reflective functioning seems to have great possibilities of being improved in psychotherapy (Levy, et al., 2006). For this reason, in all cases in which these constructs are associated, it could be useful to move towards the creation of a therapeutic plan based upon the empowerment of the mentalization abilities of the subject (Levy, et al., 2006).

The aim of this study was to evaluate the relationship between alexithymia and reflective functioning. In addition, we wanted to control the effect of the gender variable on this relationship. Considering that alexithymia and reflective functioning share their interests for common emotive and cognitive processes, and that both are linked to similar psychopathologies, as well as the general population, we expect to find a significant correlation between both constructs.

Concerning gender differences, research shows interesting results. Some studies reveal no significant differences between the genders or a difference in favor of the females (Nam, Lee, & Hur, 2018), some other studies have found higher level of alexithymia in male subjects, as far as externally-oriented thinking and difficulty in identifying emotions are concerned (Larsen, et al., 2006). In order to both shed some light on the mixed results the current literature shows and give more accuracy in the development of adequate treatment plans of male or female patients featuring alexithymic traits and inadequate reflective functioning abilities, this study wants to also highlight the role of the gender variable, in particular concerning alexithymia.

## **Method**

### ***Participants***

The sample consisted of 216 participants, 108 males (50%) and 108 females, recruited through social networks. All participants were of Italian nationality and spoke Italian. Male subjects were aged 18-30 ( $M=24.06$ ;  $SD=2.85$ ), female subjects were aged 19-30 ( $M=24.67$ ;  $SD=2.81$ ).

With regard to civil status of the males, most were single (57%), 36% were engaged in a relationship, 4% were cohabitant, 3% were “other”. With regard to civil status of the females, most were engaged in a relationship (52%), 38% were single, 5% were married, 4% were cohabitant, 1% were divorced, 1% were other.

Concerning the profession of the male subjects, most were students (64%), 13% were employed, 12% were unemployed, 4% were freelance. Concerning the profession of the female subjects, most were students (71%), 14% were unemployed, 7% were employed, 7% were freelance.

As far the school grade of the males is concerned, most had a diploma (51%), 44% had a degree, 6% had a postgraduate degree. As far the school grade of the females is concerned, most had a degree (60%), 35% had a diploma, 5% had a postgraduate degree.

### ***Procedure and Measures***

The protocol was created using an online survey. Subsequently, participants were recruited through social networks. All participants agreed to participate in the research. Each of them was informed

about the procedure of the study, which was performed in accordance with the ethical standards described in the 1964 Declaration of Helsinki.

All measures were collected online in a single session in the months of March and April 2018. The study procedures were thoroughly explained and all questions were answered. Instructions stated that the participation in research was voluntary and responses were confidential. Participation required about 15 min.

*Sociodemographic Variables.* A sociodemographic questionnaire was used to ask participants about their age, sex, civil status, profession, and school grade.

*Reflective Functioning Questionnaire.* The Italian version of the RFQ-8 was used. This is a self-report questionnaire, which assesses the reflective functioning of the subjects (Fonagy, et al., 2016). It takes about 5 minutes and consists of 8 items scored on a seven-point Likert scale, where “1” means “strongly disagree”, and “7” means “strongly agree”.

The answers are collected in two scales, which investigate certainty and uncertainty of mental states. Low scores on the certainty of mental states might indicate hypermentalizing, while high scores reflect genuine mentalizing, involving an acknowledgment of the opaqueness of mental states, while at the same time having some certainty about what oneself or others are experiencing (Fonagy, et al., 2016).

High scores on the uncertainty of mental states might indicate hypomentalizing, a position characterized by a lack of knowledge about mental states, while low scores reflect acknowledgment of the opaqueness of one's own mental states and that of others, characteristic of genuine mentalizing (Fonagy, et al., 2016).

The version used in this study (RFQ-8) is the one recommended by the authors, concerning research (Luyten & Fonagy, 2017). Several studies confirm the psychometric properties of this instrument (Fonagy, et al., 2016).

*Toronto Alexithymia Scale.* The Italian version of the TAS-20 was used (Bressi, et al., 1996). The TAS-20 (Taylor, Bagby, & Parker, 1994) is one of the most used instruments to assess the alexithymic construct. In particular, this questionnaire assesses three key components of alexithymia: 1) difficulty in identifying emotions; 2) difficulty in describing emotions; 3) externally-oriented thinking.

The first factor consists of 7 items which assess the ability to identify emotions and distinguish them from somatic sensations associated with emotional arousal.

The second factor includes 5 items which assess the ability to describe and verbalize emotions to others.

The third factor consists of 8 items which assess externally-oriented thinking, an externally-oriented style of thinking.

A global alexithymia score can be generated by the sum of responses to all 20 items. The instrument takes 10 minutes and consists of 20 items scored on a five-point Likert scale, where “1” means “strongly disagree”, “5” means “strongly agree”. High scores might imply the presence of alexithymic features.

The TAS-20 showed good psychometric characteristics in several studies (Taylor, & Bagby, 2000; Bressi, et al., 1996; Pandley, et al., 1996; Taylor, Bagby, & Parker, 1994), and it showed to have a good convergent and discriminant validity with other theoretically relevant constructs, such as psychological mindedness and openness to experience (Taylor, Bagby, & Parker, 1994).

## Results

### *Statistics and data analysis*

Data analysis was performed using the SPSS-22 statistical package. The t test for independent samples was used on the scores obtained at the Reflective Functioning Questionnaire and at the Toronto Alexithymia Scale in order to verify gender differences. Pearson’s correlation analysis was performed between scores obtained at the TAS-20 and at the RFQ-8 scales.

Table 1 shows means, standard deviations, Cronbach’s alphas, skewness and kurtosis of the scores obtained at the RFQ-8 and at the TAS-20 scales by subjects, considered by gender.

	Male					Female					t	p	df
	M	SD	$\alpha$	Skew	Kurt	M	SD	$\alpha$	Skew	Kurt			
Certainty of mental states	1.13	.82	.79	.33	-.91	1.00	.75	.74	.58	-.40	1.16	.25	214
Uncertainty of mental states	.66	.60	.72	.151	3.26	.55	.52	.65	1.21	1.66	1.39	.17	214
Difficulty in identifying emotions	2.26	1.00	.77	.01	-1.05	2.21	.85	.70	.24	-.87	.41	.68	214
Difficulty in describing emotions	2.86	.96	.87	.93	.01	2.59	.86	.83	.58	-.24	2.10	<b>.04*</b>	214
Externally-oriented thinking	2.12	.69	.73	.36	-1.05	2.00	.59	.67	.33	-.73	1.28	.20	214
Global Alexithymia	2.41	.69	.86	.33	-.57	2.27	.59	.82	.23	-.61	1.63	.11	214

Table 1 - Descriptive Analyses and Gender Differences in the variables.

Statistical analyses showed a significant difference between males and females in the difficulty in describing emotions. Specifically, males had higher levels of difficulty in describing emotions. There were no other significant differences regarding the difficulty in identifying emotions and the externally-oriented thinking. In addition, did not emerge any statistically significant difference between males and females concerning both certainty of mental states and uncertainty of mental states.

Table 2 show the correlations between reflective functioning and alexithymia in male and female subjects. Pearson's correlational analysis between alexithymia and reflective functioning highlighted significant correlations.

		1	2	3	4	5
Male	1. Certainty of mental states					
	2. Uncertainty of mental states	-.56**				
	3. Difficulty in identifying emotions	-.43**	.58**			
	4. Difficulty in describing emotions	-.31**	.32**	.60**		
	5. Externally-oriented thinking	-.22*	.09	.19	.35**	
	6. Global Alexithymia	-.43**	.46**	.82**	.87**	.59**
Female	1. Certainty of mental states					
	2. Uncertainty of mental states	-.46**				
	3. Difficulty in identifying emotions	-.32**	.46**			
	4. Difficulty in describing emotions	-.21*	.41**	.57**		
	5. Externally-oriented thinking	-.27**	.14	.19*	.24*	
	6. Global Alexithymia	-.35**	.47**	.83**	.85**	.55**

Table 2 - Correlations of the variables in male and female subjects

As far the difficulty in identifying emotions in males is concerned, there was a negative correlation with the certainty of mental states and a positive correlation with the uncertainty of mental states.

Concerning the difficulty in identifying emotions in females, there was a negative correlation with the certainty of mental states and a positive correlation with the uncertainty of mental states.

In reference to the difficulty in describing emotions in males, there was a negative correlation with the certainty of mental state and a positive correlation with the uncertainty of mental states.

As far the difficulty in describing emotions in females is concerned, there was a negative correlation with the certainty of mental states and a positive correlation with the uncertainty of mental states.

Concerning the externally-oriented thinking in males, there was a negative correlation with the certainty of mental states.

In reference to the externally-oriented thinking in females, there was a negative correlation with the certainty of mental states.

As far the global alexithymia score in males is regarded, there was a negative correlation with the certainty of mental states and a positive correlation with the uncertainty of mental states.

Concerning the global alexithymia score in females, there was a negative correlation with the certainty of mental states and a positive correlation with the uncertainty of mental states.

### Discussion and Conclusions

At the beginning of this study, we expected to find a correlation between reflexive functioning and alexithymia, as well as significant gender differences especially with regard to the alexithymic construct. In line with these assumptions, the results suggest the fulfillment of these hypotheses.

The first hypothesis has been fully satisfied, considering that higher scores on the mental certainty scale showed a statistically significant correlation with lower scores in alexithymia, for both males and females, as well as higher scores on the mental uncertainty scale showed a statistically significant correlation with higher scores even in alexithymia, again for both genders.

These associations can be better understood if we consider that excellent reflexive functioning skills also require adequate emotional regulation. In fact, beyond the comprehension of other people's mental states, the reflective function is conceptualized taking into account the processes related to the regulation and transformation of one's emotions, necessary for obtaining an understanding of the intentions, feelings, and beliefs of the other (Górska & Marszał, 2014). The reflective function, consequently, in order to be adequately implemented, needs optimal mechanisms of processing and emotional self-regulation, which are especially important for all subjects characterized by emotional disorders, such as the alexithymic subjects. The ability to symbolize and translate emotions into language, necessary for a correct reflective functioning, are in fact lacking in the alexithymia (Messina, Beadle, & Paradiso, 2014). The inability to modulate emotions through cognitive processing can in fact lead to a surge of unpleasant emotional states through impulsive acts, affecting the capacity of reflective functioning (Fonagy & Target, 1997).

Together with an inclination to experiment undifferentiated negative affective states, this set of conditions not only increases the possibility of altering the correct functioning of other cognitive processes, particularly those that require good emotional regulation skills, such as reflective functioning, but also the possible development of psychiatric conditions, which in turn further enhance the alteration of these processes (Bressi, et al., 2017).

The results obtained are in line with various previous studies, which confirm the presence of a significantly negative association between high alexithymic characteristics and high mentalization skills, as well as a positive association between alexithymia and low reflective functioning abilities (Bressi, et al., 2017; Swart, Kortekaas, & Aleman, 2009; Wallin, 2007; Moriguchi, et al., 2006).

From the results of this study, however, no significant correlation seems to have emerged between the externally-oriented thinking and the uncertainty of mental states. Despite this, there appears to be a significant negative correlation between externally-oriented thinking and the certainty of mental states, both for male subjects and for female subjects.

The absence of connection between externally-oriented thinking and uncertainty of mental states can be better justified and supported if we consider that uncertainty of mental states is conceptualized in terms of hypomentalization, i.e. a position characterized by an almost complete absence of knowledge with reference to mental states (Fonagy, et al., 2016).

The externally-oriented thinking seems to be connected to a pre-naturalizing mode of functioning, such as the psychic equivalence mode and the pretend mode theorized by Fonagy (1997) and implies more a way of mentalizing that works in a less optimal way, rather than an extreme lack of mentalization (Fonagy & Target, 1997).

A study by Górska and Marszał (2014) seems to confirm these theories, as it did not detect significant differences in externally-oriented thinking between subjects with relatively impaired mentalization skills and the control group. Externally-oriented thinking is generally seen in opposition to symbolic thinking, as evidenced by the fact that often these two constructs represent, in literature, the two extremes of the same continuum (Freeman, 2016).

The finding in this study of a negative association between certainty of mental states and externally-oriented thinking can then be better interpreted if we consider that symbolic thinking is considered a prerequisite for efficient reflexive functioning (Fonagy & Target, 1997), unlike externally-oriented thinking, which is often associated with a relatively compromised reflexive functioning (Busch, 2008; De M'Uzan, 2003).

These assumptions are corroborated by research, which demonstrates the presence of a negative association between excellent mentalization skills and externally-oriented thinking (Bouchard, et al., 2008). Another very recent study is in line with this discovery, confirming the hypothesis that high scores in the reflexive functioning construct correspond to low scores in the construct of externally-oriented thinking (Marszał & Jańczak, 2017).

The second hypothesis, that is the detection of significant gender differences, has led to interesting results. In fact, there seems to be a statistically significant difference between males and females with regard to difficulty in describing emotions, which was higher in males. The research, in this regard, seems to have found relatively conflicting results.

In general, males seem to get higher scores than women, as far as the alexithymic construct is concerned, however these differences do not always seem to be statistically significant. In particular, in one of these studies, even if the males obtained higher scores, the only statistically significant difference concerned the external oriented thinking, superior in males (Leo, et al., 2014).

Another study instead reveals statistically significant differences, in favor of males, with regard to the difficulties related to the identification and verbalization of emotions, or the first two factors of TAS-20 (Larsen, et al., 2006). Another study, on the other hand, seems to have found more alexithymic characteristics in the female gender (Nam, Lee, & Hur, 2018).

As a meta-analysis of 41 different samples suggests, there appear to be consistent gender differences in alexithymia, higher in males (Levant, et al., 2009).

The above research, as well as the results of this study, could be better interpreted if we consider the hypothesis of Normative Male Alexithymia, proposed by Levant (1992). The author formulated this hypothesis in order to provide an interpretative model of the social schemes of repressed emotion influenced by the traditional ideology related to masculinity.

In general, Levant (1992) justifies the profound inconsistency of the results of the literature on gender differences, concerning the identification and verbalization of emotions, postulating that higher alexithymic values obtained by male subjects are probably due to the fact that many men have been discouraged and inhibited, from the early stages of life, to express and talk about their emotions with parents, friends, or teachers. Therefore, these subjects grew up in environments that probably went on to alter and repress a functional development of their emotional self-regulation processes. These individuals, for this reason, are not able, or at least have not been able to develop, either a general awareness of the emotions or a vocabulary related to their emotional sphere (Levant, 1992).

This study highlighted the relationship between reflective functioning and alexithymia, also taking into account the role of gender differences in the variables. The results obtained might help to further increase the somewhat mixed knowledge in this field of research, but also encourage the choice of different approaches in the treatments of patients with both alexithymic and reflective functioning issues, as well as of different gender. This study seems to support a large part of the research in this field (Levant, et al., 2009), which consider the male gender as featuring more pronounced alexithymic characteristics, compared to the female counterpart. An interpretative model of this line of research can be found in the hypothesis of Normative Male Alexithymia, proposed by Levant (1992), which postulates that social schemes of repressed emotion influenced by the traditional ideology related to masculinity might play a very important role in the difference found in both males and females, as far as alexithymic traits are concerned.

By a clinical point of view, the findings of this study might be considered definitely interesting. Generally, literature highlights the fact that alexithymia seems to be connected with negative psychotherapy outcomes (Ogrodniczuk, Piper, & Joyce, 2011). On the contrary, research seems to show that treatment based on the empowerment of reflective functioning are mostly associated with very high chance of success, as far as therapeutic outcomes are concerned (Levy, et al., 2006). Taking into account the above considerations, the implications of the relationship between alexithymia and reflective functioning might be quite important in the creation of adequate treatment plans. For example, a plan primarily founded on the empowerment of reflective functioning, which might also account for the variability due to gender differences, could be considered optimal in such cases.

It would be desirable, for further studies, to have a bigger sample of subjects, as well as a wider or different age range, considering the importance of early life in the outcome of both variables.

It would also be useful for future research to use different instruments in the gathering of data, in recognition of the need for a multi-method approach for assessing complex constructs such as alexithymia.

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