

Adult Attachment, Emotional *Dysregulation* and Metacognitive Functions in Patients with Personality Disorders

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Abstract

As Ainsworth (1982, 1989) and Bowlby (1979, 1980) pointed out, all infants develop some form of attachment to their primary caregiver. Indeed, attachment began at infancy and continued throughout life. Secure attachment is a necessary precursor of the ability to regulate affect and to reflect on the emotional functioning of self and others (Fonagy, 2001). According to Hazan and Shaver (1987), the purpose of this survey is to investigate the relationship between attachment styles and emotional dysregulation, and between adult attachment and metacognition in patients with personality disorders. The research has involved 120 participants, aged 18 - 65 years and recruited during psychotherapy training. Control group is formed by 60 adults (mean = 30.07; standard deviation = 14.09); experimental group is formed by 60 patients with personality disorder (mean = 31.88; standard deviation = 12.21) grouped into three clusters: A (the “odd, eccentric” cluster), B (the “dramatic, emotional, erratic” cluster), and C (the “anxious, fearful” cluster). Participants completed the following tests: Experiences in Close Relationships Inventory, ECR, Alexithymia Scale, TAS-20 and Metacognitive Functions Screening Scale, MFSS-30. The results confirm the relationship between attachment styles, emotional dysregulation, and metacognitive functions in patients with personality disorders. More specifically, adult attachment and metacognitive functions seem to be positively related, while adult attachment and emotional dysregulation seem to be inversely related.

Keywords

Adult Attachment, Emotional Dysregulation, Metacognitive Functions, Personality Disorders

1. Introduction

Bowlby's (1969, 1973, 1980) attachment theory is a useful framework for understanding how early adverse experiences influence later emotional and behavioural development. According to Bowlby, proximity-seeking to the attachment figure in the face of threat is the "set-goal" of the attachment behavioural system. Early experiences with caregivers gradually give rise to a system of thoughts, memories, beliefs, expectations, emotions, and behaviours about the self and others. As children develop in line with environmental and developmental changes, they incorporate the capacity to reflect and communicate about past and future attachment relationships (Ainsworth, 1982, 1989; Bowlby, 1979, 1980). In this system, Internal Models regulate, interpret, and predict attachment-related behaviour in the self and the attachment figure like as a romantic relationship.

According to Bowlby's attachment theory, Hazan and Shaver (1987) classified adults into these attachment styles: secure, dismissing, preoccupied, and fearful. Later, Collins and Read (1990) assumed a precise relationship between adult attachment styles and metacognitive functioning (Flavell, 1976, 1979, 1981, 1987). Consisted of both monitoring and regulation aspects, Flavell defined metacognition as follows: "*In any kind of cognitive transaction with the human or non-human environment, a variety of information processing activities may go on. Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in service of some concrete goal or objective*" (Flavell, 1976: p. 232). Indeed, metacognitive functioning includes the abilities of representing emotions and mental events, attributing mental states to oneself and to other persons, and predicting behaviors on the basis of mental representations.

The increased interest in metacognition derives from the connection with the Theory of Mind (Baron-Cohen, Leslie, & Frith, 1985; Premack & Woodruff, 1978), with the mentalization (Bateman & Fonagy, 2004), with the alexitimia (Taylor, Bagby, & Parker, 1997; Caretti et al., 2011) and with the social cognition (Brüne, Abdel-Hamid, Lehmkämpfer, & Sontag, 2007). Semerari et al. (2008), and Dimaggio and Lisaker (2011) provided a more specific definition of metacognition including:

1) the abilities of inferring emotions and mental events from facial expressions, somatic states, behaviours and actions,

2) the abilities of reflecting on mental states,

3) the abilities of using mental states in application of problem-solving strategies or interpersonal conflicts, as human suffering.

According to the Authors mentioned above, meta cognitive functioning provides:

1) perceiving themselves as intentional agents, feeling emotions and developing thoughts differently by others. In other words, another person's may affect our thoughts and feelings, but he doesn't determine them. This process provides the ability to represent their own and others' mental states through facial expression and behavior;

2) understanding mental states, recognizing the link between thoughts, feelings and events. It means that a person can either operate in a subjective or objective frame, distinguishing between perception and memory, dreams and fantasies;

3) promoting synthetic construction of self and others, and use those judgments to solve problems and manage pain (Carcione & Falcone, 1999; Carcione, Falcone, Magnolfi, & Manaresi, 1997; DiMaggio & Lysaker, 2011; Semerari et al., 2003, 2008).

In 1991, Fonagy provided more specific clinical and theoretical considerations concerning the treatment of borderline patients. The failure of adult mental processing in borderline states had been apparent to most clinicians: in order of their dysfunctional attachment style, they have severe difficulty understanding their mental states and assigning mental states to others. Different studies conducted by the 3rd Center of Cognitive Psychotherapy of Rome sustained that patients with personality disorders had metacognitive deficits and that there are differences in metacognitive processing across these patients (for example, some patients with personality disorders find difficult to describe their emotions, while others are less able to distinguish fantasy from reality). Indeed, a lot of studies have provided evidence for a link among metacognition and psychopathology (Dimaggio & Lysaker 2011; Alaimo, 2012), paying attention to metacognition as an important factor in mental health, because it allows perceiving themselves as intentional agents and monitoring feelings (Carcione, Falcone, Magnolfi, & Manaresi, 1997). To determine the relationship among attachment style and metacognition, Kobak and Hazan (1991) assumed that Internal Working Models (IWM) represented a flexible basis for developing adult attachment style. The internal working model is a cognitive framework comprising mental representations for understanding

the world, self and others. So, adult attachment style plays a role in the process of partner selection, allowing the ability to build trusting relationships. Secure attachment is a healthy attachment style that enables individuals to work autonomously as well as with others when appropriate. Secure attachments are characterized by internal regulatory mechanisms that allow individuals to be flexible and constructive in their interpersonal relationships, learning about when and where it is appropriate to use metaconitive functioning.

In order to these features, the purpose of this survey is to investigate the relationship between attachment styles, emotional dysregulation, and metacognition in patients with personality disorders. More specifically, this survey analyses the relationship between metacognition and adult attachment styles in two separate groups of subjects (the experimental group and the control group). Psychological testing has been used as a baseline measure of the patient's emotional status.

2. Methodology

2.1. Instruments

Alexithymia was investigated through the Toronto Alexithymia Scale—TAS-20 (Bagby, Parker, & Taylor, 1994), a self-report questionnaire composed of 20 items rated on a 5-point Likert (whereby 1 = strongly disagree and 5 = strongly agree). The TAS-20 has 3 subscales congruent with the alexithymia construct: Difficulty Identifying Feelings (DDI), Difficulty Describing Feeling (DDE), and Externally-Oriented Thinking (POE). The total alexithymia score is the sum of responses to all 20 items, while the score for each subscale factor is the sum of the responses to that subscale. The TAS-20 uses cutoff scoring: equal to or less than 51 = non-alexithymia, equal to or greater than 61 = alexithymia. Scores between 52 to 60 = possible alexithymia. TAS has a good internal consistency (Cronbach's $\alpha = .81$) and adequate levels of convergent and concurrent validity.

Metacognitive functions were investigated through the Metacognitive Functions Screening Scale—MFSS-30 (Alaimo & Schimmenti, 2013), a self-report questionnaire composed of 30 items rated on a 4-point Likert (whereby 0 = strongly disagree and 3 = strongly agree). The total MFSS-30 score is the sum of responses (mean = 57.99; st. dev. = 12.18). Furthermore, the MFSS-30 provides 4 sub-scales: CRE, as the ability to understand others' Emotional States (mean = 9.77; st. dev. = 3.96), measures the ability of describing and identifying personal and social emotions (Cronbach's alpha = .79); CRC, as the ability to understand Causal Relationships (mean = 15.87; st. dev. = 4.22), measures the ability to identify causality, as the relationship between a cause and its effect (Cronbach's alpha = .71); CDD, as the ability to Judge The Distance of objects from one another and from ourselves (mean = 24.28; st. dev. = 5.33), measures the ability to infer the mental state of another person in terms of beliefs, desires, intentions, expectations (Cronbach's alpha = .78); CDP, as the ability to Ponder Situations And Problems (mean = 8.07; st. dev. = 2.15), measures critical thinking and the ability to evaluate situations and problems to better apply the previous experiences with actual events (Cronbach's alpha = .70). MFSS-30 has a good internal consistency (Cronbach's alpha = .88) and adequate levels of convergent and concurrent validity. Furthermore, Cronbach's α for the subscale coefficients is ranged from 0.70 to 0.79 (Alaimo & Schimmenti, 2013). For further information visit the web site <http://www.stateofmind.it/2014/02/metacognitive-functions-screening-scale/>.

Adult attachment was measured through the Experiences in Close Relationships Inventory, ECR (Brennan, Clark, & Shaver, 1998). The ECR is a self-report questionnaire composed of 36 items rated on a 7-point Likert (whereby 1 = strongly disagree and 7 = strongly agree). Factor analysis identified two relatively orthogonal continuous attachment dimensions, as shown in **Figure 1** and labeled "Anxiety" (ANS) and "Avoidance" (EVI), each containing 18 items. Higher scores on the Anxiety and Avoidant subscales indicate higher levels of attachment anxiety and attachment avoidance, respectively.

The secure style of attachment is characterized by low anxiety and low avoidance; the preoccupied style of attachment is characterized by high anxiety and low avoidance; the dismissive avoidant style of attachment is characterized by low anxiety and high avoidance; and the fearful avoidant style of attachment is characterized by high anxiety and high avoidance (**Table 1**).

Previous studies (Fraleay, Waller, & Brennan, 2000) demonstrated that ECR has high reliability: indeed, Cronbach' α rating of .93 for the Anxiety scale and the .95 for the Avoidance scale. For this survey, researchers have adopted the version of Picardi, Vermigli, Toni, D'Amico, Bitetti, and Pasquini (2002) that has a good internal consistency (Cronbach's $\alpha = .89$ for each scales).

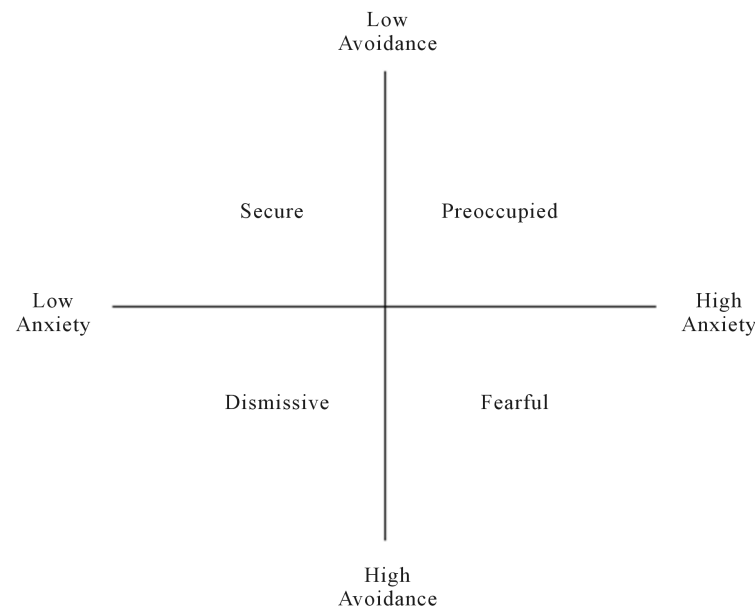


Figure 1. Combinations of anxiety and avoidance: the four attachment styles.

Table 1. Styles of adult attachment (Bartholomew, 1990).

	Avoidance	Anxiety
Secure attachment	<i>Low level</i>	<i>Low level</i>
Dismissing Avoidant attachment	<i>High level</i>	<i>Low level</i>
Preoccupied attachment	<i>Low level</i>	<i>High level</i>
Fearful Avoidant attachment	<i>High level</i>	<i>High level</i>

2.2. Participants

This survey provided 120 participants, aged 18 - 65 years (mean = 30.97; st. dev. = 13.16) and recruited during psychotherapy training in ISPEM (Caltanissetta). *Control group* (male = 35; female = 25) is formed by 60 adults (mean = 30.07; st. dev. = 14.09). Instead, *experimental group* (male = 35; female = 25) is formed by 60 patients with personality disorders (mean = 31.88; st. dev. = 12.21) grouped into the three clusters operationally defined in DSM-5: cluster A (the “odd, eccentric” cluster), 26.67%; cluster B (the “dramatic, emotional, erratic” cluster), 26.67%; cluster C (the “anxious, fearful” cluster), 46.67%.

2.3. Procedure

The participants have been informed about the purpose of the study and they gave their informed consent. The experimental procedure is been explained, and they participated to the study filling out the questionnaires in a group setting, anonymously, voluntarily, without time restrictions.

In order to test for differences between means from the two separate groups of subjects (the experimental group and the control group), psychological testing has been used as a baseline measure of the patient's emotional status. They have been tested individually in ISPEM in a quiet room that is been arranged for the experimental procedure.

A two-step analysis has been conducted before studying the possible effects of Adult attachment on Metacognitive functions and on emotional dysregulation. An explorative analysis, based on parametric tests, allowed knowing if the subjects' responses varied according to gender and group. At this stage, T-test has carried out. Then, in order to investigate the structure of the relationship among the instrumental variables, Pearson's correlations has applied and the outcomes of both group are assessed.

3. Results

Figure 2 shows a graphical representation of distribution for the investigated variables. As we expected, the experimental group has higher scores on the Anxiety and Avoidant subscales (ECR) that indicate higher levels of attachment anxiety and attachment avoidance, respectively, and alexitimia. Otherwise, the control group has higher scores on Metacognitive Functions Screening Scale (Figure 2).

Table 2 shows a graphical representation of distribution for the styles of adult attachment (Bartholomew, 1990). As we expected, attachment is a specific response requiring a specific features: the control group reaches lower rates of disorganized attachment and higher rates of secure attachment (Table 2)

The results show that the large majority of adults in control group are capable of “secure attachment”. Therefore, as we expected, experimental group is more Fearful Avoidant attached than control group. Moreover, related to Dismissing Avoidant and Preoccupied attachment style, results partially confirmed our initial expectations.

In order to know if the subjects’ responses varied according to gender and group, T- test has carried out.

Table 3 shows that there are no significant gender differences, except that in Externally-Oriented thinking (POE). Results seem to indicate that males are more emotionally intense than females and they focus on external rather than internal experience. The high value placed on control is confirmed by Moriguchi, Touroutoglou, Dickerson, and Barrett (2013) that demonstrated that women’s feelings are relatively more self-focused, whereas men’s feelings are relatively more world-focused.

Indeed, as we expected, there are significant group differences: as shown in Table 4, experimental group has problems in emotional regulation and attachment more than the other group.

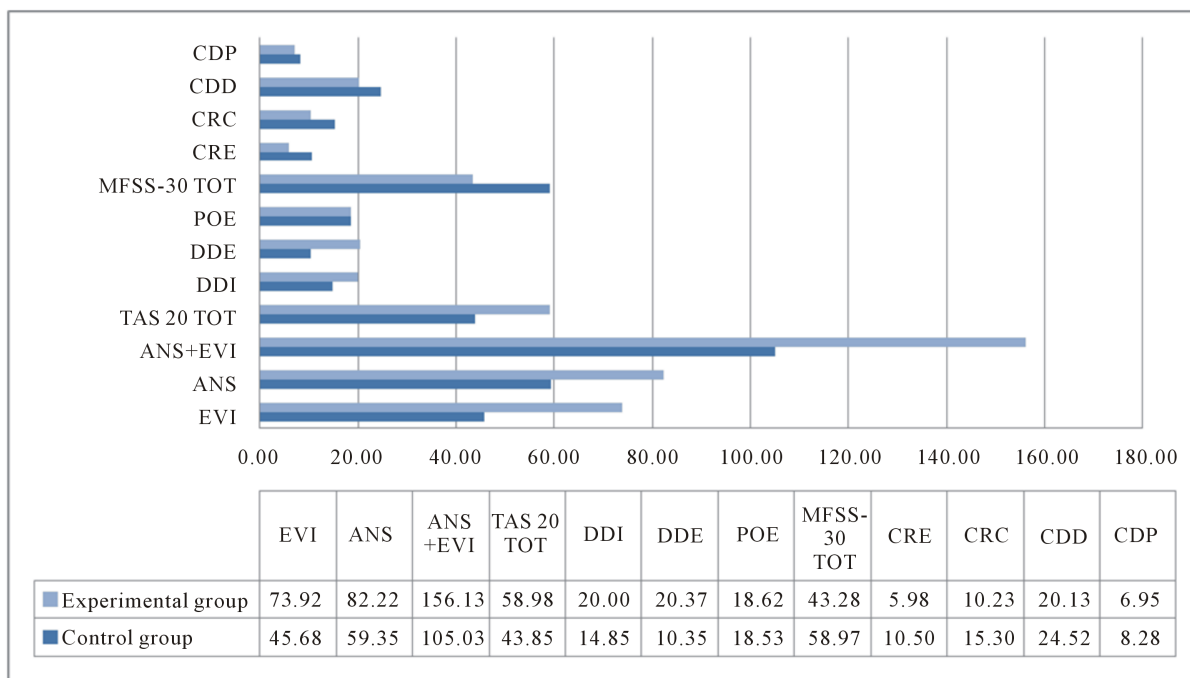


Figure 2. Graphical representation of distributions for the investigated variables.

Table 2. Styles of adult attachment.

	Control group N = 60	%	Experimental group N = 60	%
Secure attachment	24	100%	0	0%
Dismissing Avoidant attachment	17	55%	14	45%
Preoccupied attachment	10	55%	8	45%
Fearful Avoidant attachment	9	19%	38	81%

Table 3. Gender differences, Student's t test.

	Males N = 70		Females N = 50		p-value
	M	SD	M	SD	
TAS-20 (total score)	53.24	11.29	48.86	13.92	.053
DDI	16.63	5.63	15.40	6.98	.386
DDE	15.40	6.97	15.30	8.38	.243
POE	20.04	5.50	16.52	3.78	.001
Total MFSS-30 (total score)	50.53	11.36	51.96	13.34	.059
CRE	8.40	3.84	8.02	4.50	.226
CRC	12.89	4.58	12.60	4.19	.354
CDD	21.70	4.39	23.20	5.67	.293
CDP	7.60	2.17	7.64	2.29	.738
Anxiety + Avoidance (ECR)	133.26	37.72	126.84	37.38	.921
Anxiety	69.96	24.52	71.94	22.53	.611
Avoidance	63.30	22.50	54.90	23.06	.716

Table 4. Group differences, Student's t test.

	Control group N = 60		Experimental group N = 60		p-value
	M	SD	M	SD	
TAS-20 (total score)	43.85	10.00	58.98	10.16	.962
DDI	14.85	4.88	20.00	5.43	.764
DDE	10.35	3.41	20.37	7.25	.000
POE	18.53	4.49	18.62	5.76	.042
Total MFSS-30 (total score)	58.97	9.17	43.28	9.56	.773
CRE	10.50	3.55	5.98	3.35	.462
CRC	15.30	3.16	10.23	4.00	.038
CDD	24.52	4.70	20.13	4.29	.431
CDP	8.28	2.16	6.95	2.08	.540
Anxiety + Avoidance (ECR)	105.03	23.43	156.13	31.12	.005
Anxiety	59.35	14.48	82.22	24.93	.000
Avoidance	45.68	15.88	73.92	20.29	.037

These data seem to confirm the relationship between insecurely attached people and metacognition, and between insecurely attached people and personality disorders.

Emotional self-regulation is the ability to respond to the ongoing demands of experience with the range of emotions in a manner that is socially tolerable and sufficiently flexible to permit spontaneous reactions as well as the ability to delay spontaneous reactions as needed. According to the literature in this field (Basile, Quadrana, & Monniello, 2009; Dimaggio & Lysaker, 2011), patients with personality disorders experience more emotional dysregulation than the control group. In particular, they show difficulties in describing feeling (DDE), in focusing experience external rather than internal (POE) and in identifying the causal effect (CRC). The correlation coefficients shown in **Table 5** and **Table 6** indicate statistically significant bivariate correlations between the variables in both group. More specifically, adult attachment and emotional dysregulation seems to be positively related, while adult attachment and metacognitive functions seems to be inversely related.

Table 5. Pearson's correlations (Control group).

	<i>Experiences in Close Relationships</i>			<i>Metacognitive functions</i>					<i>TAS—20 total score</i>			
	Anxiety	Avoidance	Anxiety + Avoidance	CRE	CRC	CDD	CDP	MFSS 30 Tot	DDI	DDE	POE	Alexitimia
Anxiety	-	.117	.740**	-.403**	-.212	-.056	-.125	-.350**	.406**	.264*	.220	.370**
Avoidance	.117	-	.755**	-.307*	-.132	-.605**	-.244	-.533**	.386**	.301*	.323*	.462**
Anxiety + Avoidance	.740**	.755**	-	-.474**	-.229	-.447**	-.248	-.593**	.530**	.379**	.364**	.557**
CRE	-.403**	-.307*	-.474**	-	.196	.353**	.187	.650**	-.697**	-.167	-.167	-.646**
CRC	-.212	-.132	-.229	.196	-	.187	.308*	.563**	-.220	-.256*	-.256*	-.254
CDD	-.056	-.605**	-.447**	.353**	.187	-	.331**	.783**	-.375**	-.486**	-.486**	-.545**
CDP	-.125	-.244	-.248	.187	.308*	.331**	-	.524**	-.122	-.380**	-.380**	-.293*
MFSS 30 Tot	-.350**	-.533**	-.593**	.650**	.563**	.783**	.524**	-	-.580**	-.545**	-.545**	-.716**
DDI	.406**	.386**	.530**	-.697**	-.220	-.375**	-.122	-.580**	-	.639**	.244	.847**
DDE	.264*	.301*	.379**	-.631**	-.175	-.379**	-.175	-.537**	.639**	-	.239	.755**
POE	.220	.323*	.364**	-.167	-.256*	-.486**	-.380**	-.545**	.244	.239	-	.658**
Alexitimia	.462**	.370**	.557**	-.646**	-.254	-.545**	-.293*	-.716**	.847**	.755**	.658**	-

Note: * $p < .05$; ** $p < .01$.

Table 6. Pearson's correlations (Experimental group).

	<i>Experiences in Close Relationships</i>			<i>Metacognitive functions</i>					<i>TAS—20 total score</i>			
	Anxiety	Avoidance	Anxiety + Avoidance	CRE	CRC	CDD	CDP	MFSS 30 Tot	DDI	DDE	POE	Alexitimia
Anxiety	-	-.064	.759**	-.006	-.163	.018	-.096	-.092	-.062	.156	.068	-.109
Avoidance	-.064	-	.601**	-.242	-.365**	-.292*	-.177	-.400**	.099	-.161	.338**	.357**
Anxiety + Avoidance	.759**	.601**	-	-.163	-.368**	-.176	-.192	-.334**	.015	-.027	.275*	.145
CRE	-.006	-.242	-.163	-	.220	.376**	.195	.653**	-.277*	-.663**	-.188	-.728**
CRC	-.163	-.365**	-.368**	.220	-	.430**	.111	.715**	-.280*	-.207	-.083	-.344**
CDD	.018	-.292*	-.176	.376**	.430**	-	.358**	.826**	-.085	.372**	-.193	-.420**
CDP	-.096	-.177	-.192	.195	.111	.358**	-	.472**	-.162	-.075	-.184	-.245
MFSS 30 Tot	-.092	-.400**	-.334**	.653**	.715**	.826**	.472**	-	-.291	-.503**	-.220	-.639**
DDI	-.062	.099	.015	-.277*	-.280*	-.085	-.162	-.291*	-	.121	-.310*	.445**
DDE	.156	-.161	-.027	-.663**	-.207	-.372**	-.075	-.503**	.121	-	-.026	.764**
POE	.068	.338**	.275*	-.188	-.083	-.193	-.184	-.220	-.310*	-.026	-	.383**
Alexitimia	-.109	.357**	.145	-.728**	-.344**	-.420**	-.245	-.639**	.445**	.764**	.383**	-

Note: * $p < .05$; ** $p < .01$.

4. Discussion

The purpose of this survey is to investigate, on the one hand, the relationship between attachment styles and emotional dysregulation, and, from the other hand, metacognition in patients with personality disorders.

As we expected, patients with personality disorders (experimental group) experience anxiety and avoidance more than control group (Basile, Quadrana, & Monniello, 2009; Dimaggio & Lysaker, 2011). At the same time, according to the literature in this field (Alaimo, 2012; Basile, Quadrana, & Monniello, 2009; Dimaggio & Lysaker, 2011), experimental group scores higher levels in emotional dysregulation (see DDE and POE scales' scores) and lower levels in metacognition (see CRC scales' scores).

In order to investigate the structure of the relationship among the instrumental variables, Pearson's correlations has applied. Results partially confirmed our initial expectations. Although is attachment a direct cause of emotional dysregulation (adult attachment and emotional dysregulation are positively related) and metacognition (adult attachment and Metacognitive functions are inversely related), scores within the groups are very different. In particular:

1) there is a statistically significant correlation (positive) between Alexitimia and adult attachment (ECR) in control group (Anxiety, .462**; Avoidance, .370**). This results is partially confirmed in experimental group, where only Avoidance is statistically significant (Avoidance, .357**);

2) there is a statistically significant correlation (negative) between Metacognitive functioning (MFSS-30) and adult attachment (ECR) in control group. This results is partially confirmed in experimental group where Anxiety (-.092) is not statistically significant.

Both groups show a statistically significant bivariate correlations between MFSS-30' scores, overall in CRE and CDD' scales, attachment and emotional dysregulation. As we expected, the ability to infer the mental state of another person (CDD) provides the ability of describing and identifying personal and social capability (CRE). In order to this, the inversely related relationship among Metacognition and emotional dysregulation confirms that mentalizing is the basis of self-awareness and a sense of identity. Moreover, this ability allows people to shift perspectives. Moreover, both groups show a statistically significant bivariate correlations between the ability to infer the mental state of another person (CDD) and Avoidance (ECR). According to the literature in this field (Ainsworth, 1982, 1989; Bowlby, 1979, 1980), secure attachment is where the child uses the primary caregiver as a secure base from which to explore and, when necessary, has a haven of safety and a source of comfort. If children receive "inadequate care", they use avoidance as an instrument to protect themselves from pain and suffering. When they grow up, they repeat this model in love. The increase of CDD' scores gives an evidence of the difficulty of experimental group in understanding the other people's mental states and taking a different perspective. In this context, the low correlation among CDD and Anxiety (ECR) is explained by the missing link between anxiety and Empathetic Ability.

As **Table 2** shows, the large majority of adults in control group are capable of "secure attachment". Therefore, as we expected, experimental group is more Fearful Avoidant attached than the other group. Fearful Avoidant (sometimes called *anxious-avoidant*) share an underlying distrust of caregiving others with the dismissive-avoidant, but have not developed the amor of high self-esteem to allow them to do without attachment; they realize they need and want intimacy, but when they are in a relationship that starts to get close, their fear and mistrust surfaces and they distance.

5. Conclusions

In 1991, Main showed that the absence of metacognitive capacity, the inability to "*understand the merely representational nature of their own (and others') thinking*" (Main, 1991: p. 128), makes infants and toddlers vulnerable to the inconsistency of the caregiver's behaviour. They are unable to step beyond the immediate reality of experience and grasp the distinction among immediate experience and the mental state which might underpin it. Previous studies demonstrated a direct link between the parent's early attachment experiences and personality disorders (Fonagy & Target, 2006). If children grew up with an insecure attachment pattern, it causes and maintains the symptom, encountering resistance to change. Similarly, this study demonstrated the relationship between attachment styles and emotional dysregulation, and, more specifically, between attachment styles and metacognition in patients with personality disorders.

Although the administered instruments are self-reports unable to exactly investigate functioning and features, the most interesting aspects of this survey show:

- a marked differences between experimental and control group in investigated features. More specifically, patients with personality disorders (experimental group, insecure attachment) score higher levels in emotional dysregulation (alexithimia) and lower levels in Metacognitive functioning;
- a *negative* correlation between alexithimia (emotional dysregulation as facial imitation, mentalization, empathy, and internal working models-of-self and others) and metacognitive functioning in both groups. Furthermore, correlation is statistically significant (.716** in control group; .639** in experimental group). In other terms, regardless of diagnostic label, there is a relationship between emotional regulation (alexithimia) and metacognition.

Indeed, the statistically significant correlation (negative) between the ability to shift perspectives (CDD) and emotional dysregulation (alexithimia), and between this feature (CDD) and Avoidance (that measures the difficulty in Adult attachment), confirm that having a different point of view (CDD) is the basic requirement for human relationships. From one hand, in both groups there is a statistically significant correlation (positive) between emotional dysregulation (alexithimia) and avoidance (EVI). This feature is mostly present in adults with an insecure attachment pattern. Therefore, there is a statistically significant correlation (negative) between emotional dysregulation (alexithimia) and metacognition (the best score shows the highest level of functioning). On the other hand, the relatively *large* numbers of people with fearful avoidant attachment or the missed homogeneity of personality disorders (Cluster A = 27%; Cluster B = 27%; Cluster C = 46%) could cause the statistically significant correlation (positive) between anxiety (ANS), Alexithimia and Metacognition only in the experimental group. Moreover, the experimental group has higher scores on the Anxiety and Avoidant subscales (ECR) that indicate higher levels of attachment anxiety and attachment avoidance, respectively.

So, while metacognition is often studied as a one-dimensional phenomenon, this feature may involve capacities that are conceptually distinct. In fact, patients with personality disorders have different scores on one or more of the abilities measured by MFSS-30 (CRE; CRC; CDD; CDP). Consequently, these psychological assessments could be used as a basis for identifying problems, evaluating deficit disorders and planning interventions, as counseling and psychotherapy. Indeed, the results of this survey confirm the relationship between attachment styles and emotional dysregulation, and between attachment styles and metacognition in patients with personality disorders, suggesting that disorganized attachment may be one of risk factors for the development of personality disorders.

Further research aims to clarify the role of these features, enlarging the personality disorders sample to more accurately estimate the role of Adult attachment, from one hand, in emotional dysregulation and, from the other hand, in Metacognitive functioning.

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