

The Relationship Between Reflective Functioning and Affect Consciousness in Patients With Avoidant and Borderline Personality Disorders

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Avoidant personality disorder (APD) and borderline personality disorder (BPD) are the most frequent personality disorders (PDs) in clinical practice. Although BPD research dominates the field, both PDs are clearly associated with severe functional impairments and substantial treatment challenges. Few have investigated the relationship between core personality vulnerabilities across PDs. However, such research has high clinical relevance, could expand our understanding of the distinct nature of the disorders, and thus have important therapeutic implications. Central PD vulnerabilities have been conceptualized in two, possibly overlapping, constructs: mentalization and affect consciousness (AC). The interrelationship between mentalizing and AC and PD specific differences are, as yet, not well established. The present study investigated the relationship between mentalizing capacity and AC among 73 treatment-seeking patients with APD and/or BPD, 81% females. Mentalization was measured by assessment of reflective functioning (RF) from transcripts of the Adult Attachment Interview (AAI). AC was measured by using the Affect Consciousness Interview (ACI). In this mixed PD sample, the RF and AC scores indicated poor functioning and correlations between RF and AC were low to moderately positive. In the PD-specific subgroups, correlations between RF and AC were positive (moderate to high) in the APD group ($n = 26$), but insignificant in the BPD group ($n = 33$). In conclusion, the positive relationship between RF and AC may not be generalized to all types of psychopathology. Our results indicate a strong relationship between impaired AC and poor mentalizing capacities among APD patients in particular.

Keywords: mentalizing, reflective functioning, affect consciousness, borderline personality disorder, avoidant personality disorder

PDs are associated with a broad range of emotional suffering, high-risk functional impairments, and substantial treatment challenges, altogether underscoring the need for a more profound

understanding of the nature of the disorders (*Diagnostic and Statistical Manual of Mental Disorders*; 4th ed., *DSM-IV*; American Psychiatric Association [APA], 1994; Schmahl et al., 2014; Weinbrecht, Schulze, Boettcher, & Renneberg, 2016). In clinical practice, APD and BPD are the two most frequently encountered PDs (Schmahl et al., 2014; Weinbrecht et al., 2016; Zimmerman, Rothschild, & Chelminski, 2005). Although severe psychosocial impairment are well documented among patients with APD and BPD, research focusing on specific aspects of mental functioning is still scarce and seldom includes patients with PDs other than BPD (Beeney et al., 2015; Fertuck, Karan, & Stanley, 2016; Moroni et al., 2016).

Mentalizing difficulties and low AC are both proposed vulnerability factors for psychopathology, in general, and for PDs, in particular (Chiesa & Fonagy, 2014; Dimaggio, Semerari, Carcione, Nicolò, & Procacci, 2007; Solbakken, Hansen, & Monsen, 2011). However, the capacity to mentalize is a complex function that involves several dimensions of psychic functioning, and specific PDs may have selective differences in mentalizing incapacities (Chiesa & Fonagy, 2014). Mentalizing and AC have been suggested to be overlapping concepts as AC has similarities with the affective aspect of mentalization termed “mentalized affectivity” (Choi-Kain & Gunderson, 2008; Mohaupt, Holgersen, Binder,

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& Nielsen, 2006; Solbakken, Hansen, & Monsen, 2011). Several studies have indicated that both APD and BPD are associated with dysfunctions of both mentalizing and AC (Antonsen, Johansen, Rø, Kvarstein, & Wilberg, 2016; Chiesa & Fonagy, 2014; Fischer-Kern et al., 2010; Johansen, Normann-Eide, Normann-Eide, & Wilberg, 2013; Levy et al., 2006; Solbakken, Hansen, Havik, & Monsen, 2011). Yet, few have studied the relationship between mentalizing and AC, and the relationship between these functions remains unclear in case of psychopathology, such as PDs. Further investigations are required to establish whether or how these impairments differ by type of personality pathology.

Defining features of APD are feelings of inadequacy, fear of being shamed or ridiculed, hypersensitivity to negative evaluation, and a pervasive pattern of social inhibition (APA, 1994). Processes underlying the APD features are less explored (Beeney et al., 2015). Different theoretical models have nevertheless pointed to difficulties in cognitive and emotional domains, and suggest that APD have profound difficulties in identifying their own mental states, thoughts, and emotions (Dimaggio et al., 2007; McCullough et al., 2003; Millon, 1981). More specifically, according to Millon (1981), individuals with APD have low tolerance for painful feelings related to perceptions of inadequacy and negative self-worth, and the interpersonal avoidance is proposed to serve as a protection against real and imagined psychic pain. Such protective strategies may pervade every facet of emotional life by producing a muddling of emotions or repression of all feelings, including positive feelings. Likewise, McCullough and coworkers (2003) proposed that APD patients characteristically suffer from a "phobia" against emotional experiences (affect phobia), whereas Dimaggio and colleagues (2007) argue that APD problems comprise both emotional and cognitive domains and the ability to convey experiences, a tendency assumed to reinforce feelings of alienation. Correspondingly, empirical studies of APD patients have investigated the capacity to symbolize emotions and to elaborate upon emotional experiences. A tendency of alexithymia is suggested as a central underlying APD aspect (Loas, Baelde, & Verrier, 2015), and comparisons of APD and BPD patients have indicated poorer AC among APD patients (Johansen et al., 2013). A recent study of Moroni and colleagues (2016) was based on the semistructured Metacognition Assessment Interview (MAI; Semerari et al., 2012). Within four metacognitive functions, the MAI captures central functions of AC and mentalizing. These functions include *monitoring* (the ability to identify and label mental states in terms of emotions, thoughts, motivations, and desires), *integration* (the more general capacity of individuals for reflection upon different mental states, identifying internal contradictions, conflicts, and patterns), *differentiation* (the ability to recognize the representational nature of mental states, distinguishing clearly between internal psychological contents and external reality), and *decentering* (the ability to assume other people's perspective and to make plausible hypotheses about their mental states; Semerari et al., 2015). According to Moroni et al. (2016), APD patients demonstrated specific metacognitive difficulties and problems related to monitoring and decentering when compared with patients with other types of PD. Thus, the capacities to identify and label mental states (emotions, thoughts, motivations, and desires), assume other peoples' perspective, and make plausible hypotheses about mental states were poorer among patients with APD.

Defining features of BPD include problems related to lack of a stable sense of self such as emotional instability, bursts of rage, unstable and intense interpersonal relationships, intolerance of aloneness, potentially destructive impulsivity, self-harm, and suicidal behavior (APA, 1994). Impaired mentalizing capacities and attachment insecurity are proposed as core aspects of BPD (Fonagy, Luyten, & Bateman, 2015). A specific mentalizing challenge in BPD may be the ability to reflect and act constructively while under strong emotional arousal (Bateman & Fonagy, 2004). In a study of BPD adolescents, Sharp et al. (2011) combined two measures, both based on self-reports, the Difficulties in Emotion Regulation Scale and the Movie for the Assessment of Social Cognition, and demonstrated that the association between mentalizing deficits and BPD features was linked to emotional regulation problems. Several empirical studies have investigated BPD patients' mentalizing capacities (Chiesa & Fonagy, 2014; Fischer-Kern et al., 2010; Levy et al., 2006). However, reports characterizing the nature of BPD patients' mentalizing capacities as measured by facial emotion perception, theory of mind, or Reading the Mind in the Eyes Test (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001) are divergent, and have not unambiguously indicated poorer capacity of facial emotion perception than healthy controls, but also equally good or even hypervigilance to emotional expressions in others (Fertuck et al., 2009; Izurieta Hidalgo et al., 2016; Roepke, Vater, Preißler, Heekeren, & Dziobek, 2013; Vaskinn et al., 2015; Weinstein et al., 2016). The latter suggests that BPD patients may have a heightened sensitivity to certain emotional mental states of others compared with healthy controls (Fertuck et al., 2009; Izurieta Hidalgo et al., 2016). Using MAI, Semerari et al. (2015) reported poorer capacity for specific aspects of mentalization among BPD patients as compared with other PDs. BPD patients had a poorer capacity for two types of specific mindreading functions, that is, differentiation and integration. These included the capacity to reflect upon different mental states (identifying internal contradictions, conflicts, and patterns), and to recognize the representational nature of mental states (e.g., internal psychological contents and external reality). Interestingly, the ability to identify and label mental states in terms of emotions, thoughts, motivations, and desires were not impaired among patients with BPD.

Improved mentalizing is regarded as a therapeutic aim in the treatment of BPD and correspondingly, increased AC may also relate to better personality functioning (Fonagy et al., 2015; Solbakken, Hansen, Havik, et al., 2011). Several psychotherapy approaches are now recommended for BPD patients (Stoffers et al., 2012). The different approaches emphasize a focus on affect regulation and the mentalizing of affect (e.g., dialectical behavior therapy, mentalization-based therapy, schema-focused therapy, transference-focused psychotherapy). In sharp contrast to the favorable situation regarding BPD, treatments specifically designed for APD are scarce (Weinbrecht et al., 2016). Moreover, several treatment studies have identified the presence of APD as a negative prognostic factor and also indicated an increased risk of relapse after treatment (Gude & Vaglum, 2001; Seemüller et al., 2014; Vrabell, Hoffart, Rø, Martinsen, & Rosenvinge, 2010; Wilberg, Karterud, Pedersen, & Urnes, 2009). Further research is needed for more detailed understanding of the APD condition and possible implications for treatment strategies.

Mentalizing

Mentalizing is defined as the implicit or explicit “imaginative mental activity that enables us to perceive and interpret human behavior in term of intentional mental states (e.g., needs, desires, feelings, beliefs, and goals)” (Fonagy, Bateman, & Luyten, 2012, p. 4). The concept of mentalizing is influenced by psychoanalytic theories, Main’s concept of metacognition, the theory and research of attachment, and by the theory of mind tradition (Fonagy, Gergely, Jurist, & Target, 2002; Main, Kaplan, & Cassidy, 1985). Fonagy and Target (2007) proposed that mentalizing naturally develops through three prementalizing modes of thinking that influence the experience of psychic reality: (a) a *teleological mode* that refers to a child’s experience of the world in which mental states are not represented and must be expressed in action, (b) a *psychic equivalence mode* reflecting that the inner psychic reality of the child becomes “too real” and the distinctions between external and internal reality are poor, and (c) a *pretend mode* in which the child is able to maintain an “as if” private reality, seemingly inconsistent and separate from the outer reality. Normally, these modes of thinking are gradually integrated into a mentalizing capacity in which the child begins to understand thoughts and feelings as mental representations of self and others. In this developmental theory the social biofeedback theory is considered crucial (Fonagy et al., 2002; Gergely & Watson, 1996). According to the social biofeedback theory and research of Gergely and Watson (1996), the early caregiver-infant affective bond facilitates the capacity to regulate affects and thus influences the movement from coregulation to self-regulation in the case of secure attachment. According to Jurist (2005) the capacity to mentalize is inseparable from the representation and the regulation of affect and introduces the term mentalized affectivity. By reference to Fonagy et al. (2002) Jurist defines mentalized affectivity as “a sophisticated form of affect regulation that entails revaluing, not just modulating, affects” (Jurist, 2005, p. 427). The process of mentalizing emotional experiences might thus create and specify new meaning. Such development is also the aim of the treatment process in psychoanalysis and psychoanalytic psychotherapy.

The gold standard for measuring of mentalizing capacity among adults is the measure of RF, as operationalized through the Reflective Functioning Scale (RFS) originally applied on the AAI narratives (Fonagy, Target, Steele, & Steele, 1998; George, Kaplan, & Main, 1985; Taubner et al., 2013). The RFS has shown its usefulness in research on attachment, psychopathology, and psychotherapy (Katznelson, 2014). Low levels of RF seem to play an important role in various psychiatric disorders involving pathology of the self, particular PDs (Antonsen et al., 2016; Bateman & Fonagy, 2004; Chiesa & Fonagy, 2014; Ensink et al., 2015; Fischer-Kern et al., 2010; Gullestad, Johansen, Høglend, Karterud, & Wilberg, 2013; Katznelson, 2014; Levy et al., 2006).

More recently, the view that mentalizing includes multiple dimensions of psychic functioning has been highlighted, and these are suggested to include internal/external, cognitive/affective, self-/other-oriented, and implicit/explicit processes (Chiesa & Fonagy, 2014; Choi-Kain & Gunderson, 2008). Chiesa and Fonagy (2014) have thus suggested that RF based on the AAI may be sensitive to deficits in some, but not all of the mentalizing dimensions, and proposed that studies of PDs should include a broader

range of measures to explore the relationship between various mentalizing dimensions and PDs.

AC

AC is defined as the individual’s capacity to consciously perceive, tolerate, reflect upon, and express experiences of affective activation, and refers to “the functional and fluent integration of affect, cognition, and behavior assumed to be important aspects of mental health” (Solbakken, Hansen, Havik, et al., 2011, p. 257). The AC concept was developed by Monsen and coworkers, and was originally used in a naturalistic treatment study of patients with personality and psychotic disorders (Monsen, Eilertsen, Melgård, & Ødegård, 1996; Monsen & Monsen, 1999). Its development is influenced by several theoretical traditions, most notably the theories of basic emotions and script theoretical formulations of Tomkins (Tomkins, 1995, 2008a, 2008b), as well as the differential emotions theory of Izard (Izard, 1977). Solbakken, Hansen, Havik, et al. (2011) argue that affect activation not only structures behavior, but also involves motor, sensory, perceptual, and cognitive systems, as well as the coherence of self-experience. Moreover, in a theoretical comparison with the mentalizing concept, they hold that AC represents mentalizing of affect (Solbakken, Hansen, & Monsen, 2011). The idea that primary emotions are organizers of the experiences of the self, influence the establishment and maintenance of a coherent self, as well as interpersonal interaction, is based on several theories (e.g., Emde, 1983; Gullestad, 2005; Izard, 1977). Izard proposes that emotionally expressive behavior has two signal functions related to motivation. First, emotional expressions provide feedback to the self that is used for self-evaluation and self-regulation, and, second, emotional expressions provide information to others, signaling dispositional tendencies and response probabilities (Izard, 1977). Inspired by Rangell (1967) and Izard (1977), Emde (1983, p. 165) proposes an “affective core” of the self, and argues that “because of its biological organization, our affective core guarantees our continuity of experience across development in spite of the many ways we change; it also guarantees that we can understand others who are human.” Summarizing psychoanalytic theory, modern cognitive psychology, and neurosciences on the subject of affect, Gullestad (2005) holds that the converging viewpoint within modern psychoanalysis is that “affects inform us about our experience of ourselves in the world and provide the basis for action” (p. 5).

Monsen and coworkers operationalize the construct of AC through the semistructured ACI and the Affect Consciousness Scales (ACS; Monsen, Monsen, Solbakken, & Sandvik-Hansen, 2008). The ACS measures degrees of awareness, tolerance, non-verbal and verbal expressivity of, in the first version, nine discrete affects, and in a more recent version, 11 discrete affects (Monsen et al., 2008). Several studies of mixed clinical populations and PD samples have confirmed that deficits in AC are related to psychological and interpersonal disturbances, and have thus supported the construct validity of the AC (Gude, Monsen, & Hoffart, 2001; Holmqvist, 2008; Johansen et al., 2013; Lech, Andersson, & Holmqvist, 2008; Lech, Holmqvist, & Andersson, 2012; Monsen, Eilertsen, Melgård, & Ødegård, 1996; Monsen, Odland, Faugli, Daae, & Eilertsen, 1995; Solbakken, Hansen, Havik, et al., 2011; Waller & Scheidt, 2004). In two recent studies based on the present PD sample, low AC was associated with poorer function-

ing in self and relational personality domains, such as self-esteem and interpersonal problems (Johansen, Normann-Eide, Kvarstein, Normann-Eide, & Wilberg, 2016; Normann-Eide, Johansen, Normann-Eide, Egeland, & Wilberg, 2013).

Mentalizing and AC may be overlapping constructs. The concept of mentalization is, however, broad and complex, while AC has similarities with the aspect of mentalization termed mentalized affectivity (Choi-Kain & Gunderson, 2008; Mohaupt et al., 2006; Solbakken, Hansen, & Monsen, 2011). As both AC and mentalization conceptualize the ability to perceive, reflect upon, and adequately express affect, the overlap is substantial (Choi-Kain & Gunderson, 2008). Both AC and mentalizing go beyond merely identifying feelings; they also entail elucidating their intentional structure, that is, “the capacity to connect to the meaning of ones emotions” (Fonagy et al., 2002, p. 65; Monsen et al., 2008). The concept of AC is also assumed to be overlapping with psychological mindedness, empathy, and mindfulness all representing aspects close to mentalization (Choi-Kain & Gunderson, 2008).

Differences Between the Measures of Mentalizing and AC Should Be Noted

First, when scoring RF a combined focus is kept on capacities for self-reflective and interpersonal components, implicit and explicit processes, distinctions between inner and outer reality, and pretend from “real” modes of functioning (Fonagy et al., 1998). When assessing AC specific well-defined affects within the self are profoundly elaborated (Monsen et al., 2008). Second, RF assessment evaluates the individual’s mentalizing capacity in relation to attachment figures, while AC assessment mainly refers to affects in self, irrespective of relational context. These differences reflect the different theoretical origins of the two concepts (i.e., attachment theory and Tomkins’ theory of basic emotions). Finally, the RF measure is designed to provide only a single global score particularly based on the AAI questions which demand a reflective response. The AC measure provides average scores on different levels, one for each of the 11 affects, one for each of the four aspects (i.e., awareness, tolerance, nonverbal and verbal expressivity), and an overall global AC score. These differences imply that if scores indicate poor RF, but little AC overlap, mentalizing deficits may be related to other mentalizing aspects than affect. In the opposite case, poor RF, but a tight AC overlap, problems may be mainly related to the mentalization of affect.

Empirical Studies on the Relationship Between Mentalizing and Affect

To the best of our knowledge only two studies have explored associations between affect and mentalizing when measured as RF. In a mixed nonclinical-clinical sample, a study of Bouchard et al. (2008), assessed RF, affects, and mental states on the basis of verbatim transcripts of AAI ($n = 73$). Affects were assessed by use of the GEVA (for Grille de l’Élaboration Verbale des Affects [Verbal Elaboration of Affect Scale]; Lecours, 1995). GEVA defines two dimensional qualities of verbal expressions of affects, which is labeled “affect mentalization.” The first dimensional quality is *tolerance/abstraction*, where the lowest

level of functioning is characterized by uncontrolled manifestation of an emotional action-tendency. The second dimensional quality is *the modality of representation*, which focuses on the material used for representation (Bouchard et al., 2008, pp. 54–55). The scoring procedure combines measures from both dimensions in order to produce a supraordinate weighted GEVA score of affect mentalization. Two weighted scores were used for the analyses: one for all negatively valenced affect experienced by the subject, and another for the negatively valenced affects described as belonging to another person. Bouchard et al. (2008) found RF positively correlated with negatively valenced affects belonging to another person, $r = .44$, $p = .01$, but not with negatively valenced affects experienced by the subject. More recently, Falkenström et al. (2014) studied the relationship between RF and AC in a student sample ($n = 46$). RF scores were based on a brief version of the AAI, while AC ratings were based on an expanded ACI version, which included the AC of both self and other’s affect (the Affect Consciousness Interview-Self/Other version [ACI-S/O]; Lech et al., 2008). Surprisingly, the correlations between RF and AC were not significant (affects related to self: $r = .05$, affects related to others: $r = .18$). Thus, preliminary research suggests that the overlap between RF and AC is less than presumed.

The relationship between mentalizing and AC may differ in clinical and nonclinical populations and these phenomena might be more closely related in subjects with PD who characteristically report severe problems of self and relational functioning. It has indeed been suggested that different PD types may have specific profiles of mentalizing and emotional difficulties (Semerari et al., 2015). Existing studies suggest a stronger relationship between poor emotional awareness and poor mentalizing capacity for APD patients than BPD patients (Loas et al., 2015; Moroni et al., 2016; Roepke et al., 2013; Semerari et al., 2015). Integrating theoretical assumptions, affective dysfunction in APD may include poor access to both positively and negatively valenced affects. In BPD, however, negatively valenced affects and emotional dysregulation have primarily been focused upon. Thus, in subjects with BPD the relationship between mentalizing and emotional difficulties may differ from APD and not predominantly involve the awareness and expression of affects.

In conclusion, empirical research on this topic is scarce, and there is a need for more studies of clinical samples to throw light on the relationship between mentalizing and AC. No study has so far compared the relationship between mentalizing and AC in patients with APD and BPD.

The Present Study

The present study was conducted in a clinical sample of subjects with PDs, that is, APD and BPD. The study had two aims: (a) to investigate to which degree mentalizing capacity and AC overlap in a sample of PD patients, and (b) to explore whether the relationship between the capacities for mentalizing and AC are different in patients with APD and BPD, and can be characterized by specific profiles. Based on the close theoretical overlap between the concepts of mentalizing and AC our first hypothesis was that there would be moderate positive

correlations between RF and the three levels of AC,¹ that is, (a) global AC; (b) awareness, tolerance, emotional and conceptual expressivity, and (c) AC for each of 11 discrete affects in the total PD sample. Our second hypothesis was that the correlations between RF and AC would be significant in both diagnostic group, but somewhat stronger in the APD group than in the BPD group. Finally we hypothesized that among APD patients; there would be significant correlations between RF and both positively and negatively valenced affects, whereas in BPD patients the relationship between RF and AC would mainly involve negatively valenced affects.

Method

Design

All patients were included in the Ullevål Personality Project (UPP)—a randomized clinical study of long-term treatment for PD patients with moderate to severe psychosocial impairment (Gullestad et al., 2013). Baseline data from the UPP were used (Gullestad et al., 2013). UPP is a randomized clinical study of long-term treatment for patients with PDs, carried out at the Department for Personality Psychiatry, Oslo University Hospital in Norway. Exclusion criteria were schizotypal PD, antisocial PD, ongoing substance dependence, psychotic disorder, bipolar I disorder, developmental disorders (e.g., Asperger's), organically contingent symptoms, and being homeless. The ACI and AAI were performed on patients diagnosed with APD or BPD.

Participants

The UPP comprised 81 patients diagnosed with APD or BPD. The ACI was not feasible in four patients, and the AAI was not completed for one. As particular diagnostic conditions were expected to influence the AC and RF measures, three additional patients were excluded for the following reasons: for having a diagnosis of Asperger's disorder, prefrontal organic brain damage, or severe prefrontal dysfunction. The remaining 73 patients included in the study had a mean age of 30.6 years ($SD = 7.4$) and 81% were females. The mean number of fulfilled Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) criteria (APA, 1994) was 16.1 ($SD = 5.3$). The distribution of PD diagnoses was as follows: BPD (64%), APD (55%), paranoid PD (12%), obsessive-compulsive PD (11%), dependent PD (10%), narcissistic PD (1%), and schizoid PD (1%). Twenty-six patients had APD without BPD, and 33 had BPD without APD, whereas 14 had co-occurring APD and BPD. The patients had a mean of 3.6 symptom disorders: 86% with mood disorders, and 89% with anxiety disorders. There were no statistically significant differences between the APD and BPD group regarding age (APD: 32 years, $SD = 8.3$ vs. BPD: 29 years, $SD = 7.1$; $p = .18$), or gender (APD females = 77% vs. BPD: females = 85%; $p = .44$).

Assessments

RF. The RFS is an 11-point scale, ranging from -1 (negative RF; i.e., active resistance to the reflective stance) through scores 1–3 (i.e., mentalization is naive or simplistic, or characterized by

concrete thinking or excessive, inaccurate mentalizing) and 5–9 (i.e., gradually more elaborate and sophisticated reflectiveness).

Assessment of RF was performed on transcripts of the AAI. The AAI is a semistructured interview consisting of specified questions and situation-specific probes addressing the individual's experiences of childhood relationships with attachment figures, as well as their influences on the individual as an adult. The questions concern general descriptions of the family and the relationships to the parents. There are questions of common happenings in childhood (e.g., illness, injury, upsetting experiences), as well as separation and loss and experiences of rejection. In the present study we have applied an AAI version modified for use according to the dynamic-maturational model of attachment and adaptation (Crittenden, 2004; Crittenden, 2006). This version also includes questions about everyday routines (Hesse, 2008) in order to evoke memories of potential traumatic experiences, and elaborate common situations where children often feel unsafe (e.g., When you were a child, what happened when you were going to bed? Can you remember a special event when you lay in bed? Can you remember how parents touched you, whether careful as a caress or harder as by punishment? Can you remember a special time, and how it felt?). In the end of the AAI the more integrative questions are introduced. These include invitations to reflect on their caregivers' mental states and intentions, and how the individual believes past experiences with their parents have affected their adult personalities, as well on changes in the relationship with caregivers. An important principle in the method is that RF raters should give more weight to questions most likely to elicit explanations in terms of mental states. Thus, the questions in the AAI are divided into those that *permit*, and those that *demand* a demonstration of self-reflective capacity.

Three trained coders scored RF. The average intraclass correlation coefficient (ICC 2.1) for the overall RF scores was .73 after the exclusion of one outlier, and .61 when this outlier was included (Antonsen et al., 2016). The outlier concerned two raters disagreeing about the level of authenticity of this patient's discourse. All patients were included in the statistical analyses.

AC. The ACS on the ACI is a 9-point scale (1 = *low*, 9 = *high*) applied to determine three levels of AC: (a) a global AC score, (b) one score of each of the four AC aspects (awareness, tolerance, emotional expressivity, and conceptual expressivity) of all affects, and (c) one score for each of the 11 affects (i.e., interest/excitement, enjoyment/joy, fear/panic, anger/rage, disdain/contempt, humiliation/shame, sadness/despair, envy/jealousy, guilt/remorse, disgust/revulsion, and tenderness/care).

The ACI includes questions about: (a) episodes when the affect was activated (e.g., Tell me about something and/or situations that make you feel angry and/or at rage), (b) how the patient became aware of the affect in terms of bodily and mental sensations and thoughts (e.g., How do you know that you feel angry when you are? How is it you notice the feeling, e.g., mentally and/or physically?), (c) how the patient tolerated the influence of the affect and to what extent the affective information was utilized (e.g., When

¹ For conceptual clarity we refer to AC scales constituted of mean scores of main aspects across specific affects with a capital first letter (e.g., Global AC, Awareness, Tolerance), while applying small first letters when referring to the aspect scores on the single affect level (e.g. awareness of anger/rage) or speaking in general of these capacities.

you notice that you are angry, in what way is this particular affective experience influencing you?), (d) to what extent and how affective experiences were expressed nonverbally (e.g., How is it for you to show others that you are angry?), and (e) to what extent and how affect was expressed verbally (e.g., How is it for you to tell others that you are angry and/or in rage?). Low levels of AC indicate poor awareness of affects, a tendency for being emotionally overwhelmed, disavowal of bodily expressive acts, and absence of the capacity to describe the affective experience. Intermediate levels indicate demonstration of clear focusing of affects and stable tolerance, and general acknowledgment of both bodily expressive acts and articulation of the experience. High levels are characterized by focused and flexible awareness of nuances according to context and affect intensities, a distinct openness to affective activation and its motivating and regulating function, and a capacity to explicitly reflect on the affective experience, its meanings, and consequences for one's understanding of self and others.

All interviews were videotaped and conducted by three experienced psychotherapists trained in the ACI. Two of the interviewers performed the ratings. An independent external ACI rater scored 10 interviews from each of the two raters ($n = 20$). The reliability coefficients (ICC 2.1) were .74 for the global AC, and .53, .65, .73, and .88 for awareness, tolerance, emotional expressivity, and conceptual expressivity, respectively. The reliability of the specific affects was satisfactory for nine of the 11 affects, ranging from .67 for disdain/contempt to .87 for tenderness/care. However, the reliability was unsatisfactory for sadness/despair (.54) and envy/jealousy (.55), as well as for awareness (.53).

PD diagnoses. Axis II diagnoses were determined according to the *DSM-IV* and the *SCID-II* interview (First, Gibbon, Spitzer, Williams, & Benjamin, 1997). The kappa value was .75 for APD and 0.66 for BPD, indicating acceptable diagnostic reliability.

Statistical Analysis

All analyses were performed in SPSS Statistics (Version 21). The relationships between RF and the AC variables in the total sample ($n = 73$) were examined using Pearson's correlation coefficients. To examine the relationship between RF and AC in APD or BPD, we selected patients without comorbid APD and BPD. The correlations between AC and RF in the APD ($n = 26$) and BPD ($n = 33$) groups were examined using Spearman's rho, because of the reduced vulnerability for extreme combinations in small samples. To test differences between the diagnostic groups, we applied independent sample *t* tests and chi-square statistics or Fisher's exact test. Differences in correlations between AC and RF in the APD and BPD groups were tested using the *Z* score (Fisher, 1921). The linear relationship between RF and AC was also investigated in a multiple linear regression analysis, enter method, with RF as the dependent variable and global AC, diagnosis (BPD = 1, APD = 2), and the interaction between diagnosis and global AC as independent variables. In order to examine the relationship between RF and AC when AC variables with unsatisfactory reliability (i.e., sadness/despair, envy/jealousy, and awareness) were excluded, a revised global AC was computed to conduct control analyses. To balance the risk of Type II error due to small sample size against Type I error due to multiple testing, we applied an alpha level of .05 in all analyses.

Results

The average levels of RF and global AC scores in this sample were 3.2 ($SD = 1.5$; range 0–7) and 3.6 ($SD = .5$; range 2.3–4.6), respectively (Table 1). As to our first hypothesis, there was a statistically significant, but small, positive correlation between RF and global AC in the total sample, $r = .33$, $p = .004$. RF was positively correlated with three of the four AC aspects. The strongest correlation was between RF and awareness, $r = .48$, $p = .000$, while the correlations between RF and tolerance, $r = .27$, $p = .02$ and emotional expressivity, $r = .25$, $p = .04$ were weaker, but still statistically significant. RF correlated positively with all the positively valenced affects, that is, interest/excitement, $r = .31$, $p = .007$, enjoyment/joy, $r = .29$, $p = .01$, tenderness/care, $r = .29$, $p = .01$, but contrary to our hypothesis, only with one negatively valenced affect, that is, guilt/remorse, $r = .27$, $p = .02$. In the control analysis the correlation between the revised global AC (without elements with unsatisfactory reliability) and RF remained significant, $r = .25$, $p = .03$.

The APD and BPD groups did not differ in regard to the level of RF ($M = 3.0$, $SD = 1.6$ and $M = 3.4$, $SD = 1.4$, $p = .29$), whereas patients with BPD had a significantly higher global AC score than those with APD ($M = 3.7$, $SD = .5$ and $M = 3.4$, $SD = .5$, $p = .04$). Moreover, patients with BPD had significantly higher scores for conceptual expressivity ($M = 3.2$, $SD = 0.6$ and $M = 2.9$, $SD = .7$, $p = .04$), interest/excitement ($M = 4.6$, $SD = 1.1$ and $M = 3.9$, $SD = 1.1$, $p = .02$), and disdain/contempt ($M = 4.0$, $SD = 1.1$ and $M = 3.0$, $SD = .9$, $p = .001$).

According to our second hypothesis we expected a stronger relationship between RF and AC among patients with APD than those with BPD. In the APD group there was a high positive correlation between RF and global AC ($p = .72$, $p < .000$; Table 2). Moderate to high correlations were also found between RF and

Table 1
The RF Correlations With Global AC, the AC Aspects, and Discrete Affects in the Total PD Sample

Correlate	RF	Mean (SD)
RF		3.2 (1.54)
Global AC	.33**	3.6 (.50)
AC aspects		
Awareness	.48**	4.6 (.57)
Tolerance	.27*	3.5 (.49)
Emotional expressivity	.25*	3.2 (.67)
Conceptual expressivity	.22	3.1 (.69)
Discrete affects		
Interest/excitement	.31**	4.3 (1.11)
Enjoyment/joy	.29*	4.4 (1.19)
Tenderness/care	.29*	4.4 (1.21)
Guilt/remorse	.27*	3.7 (.82)
Fear/panic	-.09	2.9 (.65)
Anger/rage	.05	3.2 (.71)
Disdain/contempt	.10	3.6 (1.10)
Disgust/revulsion	.18	4.0 (1.10)
Humiliation/shame	-.05	3.0 (.82)
Sadness/despair	.18	3.1 (.83)
Envy/jealousy	.20	3.1 (.88)

Note. The total personality disorder (PD) sample, $N = 73$. RF = reflective functioning; AC = affect consciousness.

* $p \leq .05$. ** $p \leq .01$.

Table 2

The RF Correlations With Global AC, the AC Aspects, and Discrete Affects in Patients With APD and BPD

Correlate	APD		BPD	
	RF	Mean (SD)	RF	Mean (SD)
RF				
Global AC	.72**	3.0 (1.63)	.13	3.4 (1.37)
AC aspects				
Awareness	.84**	4.4 (.64)	.31	4.7 (.52)
Tolerance	.60**	3.4 (.49)	.12	3.6 (.49)
Emotional expressivity	.58**	3.0 (.71)	.10	3.3 (.69)
Conceptual expressivity	.34	2.9 (.73)	.05	3.2 (.62)
Discrete affects				
Interest/excitement	.57**	3.9 (1.08)	.21	4.6 (1.11)
Enjoyment/joy	.35	4.1 (1.00)	.23	4.6 (1.26)
Tenderness/care	.43*	4.1 (1.38)	.26	4.5 (1.10)
Guilt/remorse	.39*	3.6 (.82)	.23	3.9 (.81)
Fear/panic	.11	2.8 (.65)	-.16	2.8 (.63)
Anger/rage	.29	3.2 (.73)	-.22	3.4 (.73)
Disdain/contempt	.43*	3.0 (.85)	-.05	4.0 (1.07)
Disgust/revulsion	.43*	3.6 (1.21)	.09	4.0 (1.07)
Humiliation/shame	.37	2.9 (.50)	.15	2.9 (.88)
Sadness/despair	.50**	3.1 (.86)	.16	3.0 (.76)
Envy/jealousy	.55**	3.1 (1.11)	.05	3.1 (.75)

Note. Borderline personality disorder (BPD) group, $n = 33$; avoidant personality disorder (APD) group, $n = 26$. RF = reflective functioning; AC = affect consciousness.

* $p \leq .05$. ** $p \leq .01$.

awareness, tolerance, and emotional expressivity, as well as for seven of the 11 affects, in support of the hypothesis. However, in the BPD group the correlations between RF and AC variables were smaller than expected and nonsignificant (Table 2 and Figure 1). When testing the differences in correlations between the APD and BPD groups, significantly different correlations were found between RF and the following levels of AC: global AC ($\rho = .72$ vs. $\rho = .13$, $p < .01$), awareness ($\rho = .84$ vs. $\rho = .31$, $p < .01$), tolerance ($\rho = .60$ vs. $\rho = .12$, $p < .05$), emotional expressivity ($\rho = .58$ vs. $\rho = .10$, $p < .05$), and envy/jealousy ($\rho = .55$ vs. $\rho = .05$, $p < .05$). Considering the correlation between RF and the revised global AC, the correlation remained significant in the APD

group ($\rho = .60$, $p = .001$), and insignificant in the BPD group ($\rho = .17$, $p = .34$).

To further evaluate the linear relationship between RF and AC dependent on diagnosis we performed a multiple linear regression analysis with RF as dependent variable. Global AC, type of PD diagnosis, and the interaction between type of PD diagnosis and global AC were entered as independent variables. The model was statistically significant ($p = .004$) and explained 22% of the variance in RF. Global AC did not contribute independently to explained variance in RF (standardized regression coefficients, $\beta = .149$, $p = .39$). A diagnosis of APD in contrast to BPD contributed negatively to variance in RF ($\beta = -1.70$, $p = .050$), while the positive contribution of the interaction between APD and global AC to variance in RF was on the border of statistical significance ($\beta = -1.63$, $p = .053$).

Our final hypothesis regarding the relationships between RF and AC of specific affects in the two diagnostic groups was only partly supported. In the APD group there were significant positive correlations between RF and two of three positively valenced affects and five of eight negatively valenced affects (see Table 2). In the BPD group, the hypothesized correlations between RF and negatively valenced affects were not found. Correlations between RF and the specific affects were not significant.

Discussion

The present study investigated the relationship between deficits in mentalizing capacity and AC in a sample of patients with APD and BPD. As in previously published studies from the UPP, the mean levels of global AC and RF scores in the present sample were within the low ranges (Antonsen et al., 2016; Johansen et al., 2013). Despite the application of a 1–10 scale in the ACI-S/O, Falkenström et al. (2014) reported higher average RF (5.05, $SD = 1.42$) and AC (4.73, $SD = .73$) scores in their student sample, which is concurrent with theoretical assumptions and previous research where clinical samples have had poorer capacities for mentalization and AC (Chiesa & Fonagy, 2014; Fischer-Kern et al., 2010; Levy et al., 2006; Solbakken, Hansen, Havik, et al., 2011).

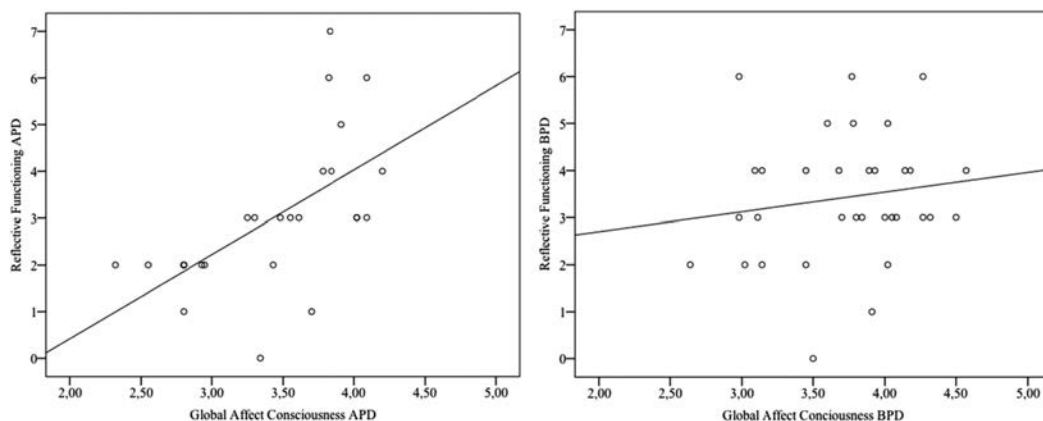


Figure 1. Scatterplot on the relation between reflective function and global affect consciousness in the avoidant personality disorder (APD) and borderline personality disorder (BPD) groups.

In accordance with our first hypothesis, the relationship between mentalizing and AC in this PD sample was positive to a moderate degree. It is a central finding in our study that correlations between RF and AC in the total sample were generally small and the results contrast the student sample of [Falkenström et al. \(2014\)](#) where no significant relationship was found at all. Thus, the relationship between impaired mentalizing and AC may be more closely linked in subjects with more profound self and relational problems. However, these differences could also be due to methodological characteristics. Compared with the original ACI, which examines aspects of AC related to self, the extended ACI-S/O version added assessments of the aspects of AC perceived in others. Moreover, of the original 11 affects on the ACI, [Falkenström and coworkers \(2014\)](#) included only seven and they rated affects on a 10-point scale (1 = *low*, 10 = *high*), whereas the original AC scale ranges from 1 to 9 ([Lech et al., 2008](#)). Finally, for timesaving reasons, they used only the 10 first of the original 23 questions on the AAI to score RF. Even if there is some empirical support for using short versions of AAI for RF assessments ([Taubner et al., 2013](#)), the evaluation of RF based on this AAI version has not yet been validated. These methodological differences complicate the comparison of the two studies. Our finding was similar to the study of [Bouchard et al. \(2008\)](#), which also describes a small correlation between RF and negatively valenced affects belonging to others. These small correlations indicate that the assumption of a generally strong association between RF and AC is too simple. The poor correlation supports the view that mentalizing of affect represents only one of various aspects in the measure of mentalizing capacity ([Chiesa & Fonagy, 2014](#)).

PD Diagnoses

Our second hypothesis was that correlations between RF and AC would be significant in both diagnostic groups, but somewhat stronger in the APD group. This hypothesis was partly supported. In the APD group correlations were generally moderate to high and statistically significant, but in the BPD group correlations were surprisingly small and nonsignificant. Differences between diagnostic groups were significant for global AC and one of the AC aspects, as well as for two of the specific affects. In the regression analysis a statistical trend was evident for the interaction between diagnoses and global AC in explaining the variance of RF. This could reflect low statistical power and a Type II error, due to small patient numbers in the two diagnostic groups.

For patients with APD, associations between AC and RF were strong for global AC, three of the four aspects, and seven of the 11 affects. The scatterplot suggests that the strongest relationship was among individuals with the lowest RF and AC scores. Such tight correlations may indicate that RF and AC reflect the same concept. Low scores of RF represent absence of mentalizing and an inability to make use of a mental language. Low scores in AC represent inability to be aware of, tolerate, and express emotional experiences. It might be that poorly functioning APD patients have profound difficulties in identifying their own mental states, thoughts, and emotions. Such an explanation is in line with studies pointing to alexithymia as a substantial feature of APD ([Loas et al., 2015](#)). Our study thus suggests that impaired mentalizing capacity among APD patients is particularly related to poor AC and supports theories associating APD with affect phobia and general

problems accessing their own mental states ([Dimaggio et al., 2007](#); [McCullough et al., 2003](#); [Millon, 1981](#)). The results are also in line with the empirical study of [Moroni et al. \(2016\)](#) where APD patients had specific problems with identifying and labeling mental states. The present study does not provide grounds for causal relationships and further documentation is required. Clinical implications could be that affective dysfunctions should be specifically focused in order to increase mentalizing capacity in therapy with patients with APD. Perhaps a focus on affective dysfunctions should be emphasized in order to increase mentalizing capacity in therapy with patients with APD? However, empirical research is still scarce and the nature of these relationships should be further explored.

In the BPD group there was no corresponding support for a strong association between mentalizing and AC. However, even if the level of AC was at the lower end of the scale in the BPD group, it was still at a significantly higher level than for the APD group. The lack of statistically significant correlations between AC and RF in the BPD group might be due to the higher scores of AC compared with the APD group. The studies of both [Fertuck et al. \(2009\)](#) and [Semerari et al. \(2015\)](#) also indicate that BPD patients have less problems with identifying and labeling emotional mental states. The study of [Fertuck et al. \(2009\)](#) may not be comparable as it focuses on the capacity to discriminate the emotional mental states of others, while the AC methodology in our study assesses the individual's experiences of their own affects. Nevertheless, [Semerari et al. \(2015\)](#) also state that metacognitive problems among patients with BPD may not merely involve the ability to monitor emotions, but also other metacognitive difficulties, such as recognizing the representational nature of mental states; distinguishing between internal and external reality; and the capacity to integrate different mental states, contradictions, and conflicts. RF is a more complex and broader measure than AC, and there may be several reasons for getting a low RF score other than poor AC in patients with BPD.

Mentalizing deficits in patients with BPD are proposed to relate to emotional arousal and regulation problems, as supported by the study of [Sharp et al. \(2011\)](#). The ability to adequately process and tolerate emotional experiences without getting overwhelmed or acting out is one of the features assessed in the AC Tolerance scale. The lack of a significant relationship between tolerance of affect and RF in the BPD group in the present study was therefore surprising. Thus, the affective instability that characterizes BPD may not be sufficiently captured in the ACI.

RF and AC of Discrete Affects

Our final hypothesis was that the relationship between RF and AC would involve both positively and negatively valenced affects in the APD group, while in the BPD group; the relationship would mainly concern negatively valenced affects. In the APD group, RF correlated strongly with the positive affects of Interest/excitement and tenderness/care, but not with enjoyment/joy. Also, five of eight negatively valenced affects correlated positively with RF. Thus, the results partly supported our hypothesis.

Specific mentalizing deficits of APD patients are understudied, but the lack of a significant relationship between joy and RF was still surprising. In the ACI the exploration of the affect joy is elaborate, and if detached from human relationships, patients may

explore this affect in relation to hobbies or pets. Our result for this affect could represent a Type II error, but we cannot rule out other unknown reasons for a weaker relationship of joy relative to the other positive affects. The present study did not take into account the patients' level of depression. Karterud et al. (2016) studied the relationship between *DSM-IV* PD criteria and primary emotions operationalized in the self-report measure Affective Neuroscience Personality Scales, finding that APD criteria were negatively associated with feelings of seeking/interest, play, and anger but positively associated with fear. This may either reflect temperamental dispositions or that a low threshold for fear is related to less experience of play and seek/interest through a process of inhibition. It follows that a further explanation of the strong relationship between RF and AC among APD patients in our study could be that overwhelmingly high levels of anxiety undermine the capacity to mentalize a wider range of affects, including also positive valenced affects.

In the BPD group the expected relationship between RF and AC for negatively valenced affects was not supported. As discussed above, this may indicate that the connection between RF and AC is generally less than assumed. It could, however also reflect a methodological limitation, as subjects with BPD are believed to be particularly vulnerable to a breakdown of reflective capacity during emotional arousal in close relationships. Even if the AAI focuses on narratives of attachment relations the interview context may not activate the attachment system equally as strong as real life situations. Interestingly, when analyzing the total sample there were significant positive correlations between RF and all the three positively valenced affects, that is, interest/excitement, enjoyment/joy and tenderness/care, while not with most of the negatively valenced affects. There has generally been little focus on pleasurable emotions in psychotherapeutic theory, research, and practice. This is also the case for the literature on mentalization. However, the capacity for mentalization as shown by the RFS is usually related to secure attachment (Fonagy et al., 2002; Fonagy et al., 1996; Fonagy et al., 2002). High levels of AC for the assumed strongly relational affects interest, joy, and tenderness, were in our study related to higher mentalizing capacity. Moreover, Winnicott (1967) suggests that creative playing is allowing a "potential space" for the child's discovery of internal mental states such as thoughts and feelings as different from those held by others ("me-extensions and not-me"; p. 371). Inspired by the work of Winnicott, others have emphasized the intimate relation between playful activity and aspects of the psychoanalytic process, such as the relations between a patient's lack of capacity to play and failure to benefit from psychoanalysis (Ogden, 1985). Further, Target and Fonagy (1996) propose that Winnicott's (1967) "potential space" (p. 372) allowing play to take place and cultural life to begin, can be seen as analogous to a pretend mode of functioning. From a theoretical point of view, creative playing is likely to include positively valenced affects such as interest, joy and tenderness, and focusing on positive feelings and play in therapy may thus be important for the development of the capacity to mentalize. Finally, positive affects are also suggested to have a beneficial impact on general mental health (Lyubomirsky, King, & Diener, 2005). The relationship between mentalizing and positive emotional experiences needs further exploration, as it may have clinical implication.

One might speculate that pleasant emotions could stimulate mentalization, whereas unpleasant emotions contribute to a shut-down of the capacity to mentalize. However, we found a positive relationship between RF and guilt/remorse, in the total sample, and in the APD group specifically. This finding may indicate a similarity between mentalizing and Klein's (1945/1975) term, "depressive position." Fonagy et al. (1998) argued that Melanie Klein's (1945/1975) notion of the depressive position, which promotes a capacity to grieve as well as feeling guilt and represents a significant step toward integration, is similar to the acquisition of RF in some respect. The latter also implies the recognition of hurt and suffering in others.

Strengths and Limitations

The present study is based on a clinical sample with significant personality pathology and applies sophisticated, interview-based assessments of AC and RF, both traditionally accepted and well-founded methods. These are considerable strengths. However, the reliability of some of the AC variables was found unsatisfactory. Nevertheless, when excluding the unsatisfactory AC variables from the analysis, we found that the bias due to unsatisfactory reliability was minor. An important limitation is the small sample size, which increases the risk of Type II errors. This may have limited the possibility to detect significant correlations among BPD patients. Further, the patients were representative of a poorly functioning cohort, but not of a wider range of functional impairment. The results may therefore not be generalized to more heterogeneous psychiatric populations. Moreover, as 81% of the participants were females, the results may not necessarily apply to males. We performed several additional analyses controlling for gender as well as age, which did not reveal substantial differences in the results. There were no statistically significant differences in gender or age between the diagnostic groups. Unfortunately, the number of males was too small to examine gender differences of RF and AC within diagnostic groups. Yet, as there may be gender differences in emotional processing and levels of alexithymia, future studies should recruit larger and more balanced samples of patients to examine this issue (Honkalampi et al., 2004; Kokkonen et al., 2001; Whittle, Yücel, Yap, & Allen, 2011).

Conclusion

The present study indicates a complex relationship between mentalizing and AC. In clinical populations, both BPD and APD patients seem to be low on both the RF and AC scales. The levels correlated highly with each other for APD patients, but not for BPD patients. Thus, the results indicate that the relationship between RF and AC is highly dependent on type of personality pathology. The findings suggest that poor ability to be aware of, tolerate and express emotions are less related to impaired mentalizing capacity in patients with BPD, but closely linked to impaired mentalizing in the inhibited and withdrawn personality style typical of APD. This finding may have therapeutic implications and the study should be replicated. Additional and more nuanced methods may be necessary to explore the relationship between mentalizing deficits and affect regulation problems in individuals with BPD.

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