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Sune Bo, Carla Sharp, Peter Fonagy, Mickey Kongerslev

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Sune Bo [a],*, Carla Sharp [b], Peter Fonagy [c], Mickey Kongerslev [d]

[a] Child and Adolescents Psychiatry and Psychiatric Research Unit, Region Zealand, Denmark

[b] University of Houston and The Menninger Clinic, US

[c] University College London, England

[d] Psychiatric Clinic and Psychiatric Research Unit, Region Zealand, Denmark

*Corresponding author: Sune Bo, Child and Adolescents Psychiatry, Region Zealand, Toftebakken 9,

4000 Roskilde, Denmark, Tel.: +45 21 64 62 98; FAX: +45 32 02 41

Email: subh@regionsjaelland.dk/sune@bokongerslev.dk

Abstract

Borderline personality disorder (BPD) has been shown to be a valid and reliable diagnosis in adolescents and associated with a decrease in both general and social functioning. With evidence linking BPD in adolescents to poor prognosis, it is important to develop a better understanding of factors and mechanisms contributing to the development of BPD. This could potentially enhance our knowledge and facilitate the design of novel treatment programs and interventions for this group. In this paper, we outline a theoretical model of BPD in adolescents linking the original mentalization-based theory of BPD, with recent extensions of the theory that focuses on hypermentalizing and epistemic trust. We then provide clinical case vignettes to illustrate this extended theoretical model of BPD. Furthermore, we suggest a treatment approach to BPD in adolescents that focuses on the reduction of hypermentalizing and epistemic mistrust. We conclude with an integration of theory and practice in the final section of the paper and make recommendations for future work in this area.

Borderline Personality Disorder in Adolescence

Borderline personality disorder is a severe psychiatric disorder defined by a range of symptoms such as emotional and behavioural dysregulation, affective instability, impulsivity, self-harm, disturbed relationships, and suicide attempts (Gunderson & Links, 2008). Despite fluctuations in symptomatology over time, the course of BPD is characterized by severe and persistent impairments in general and social functioning (Hill et al., 2008). Prevalence rates for BPD in adolescents have been reported between 1% and 3.3% (Bernstein et al., 1993). Despite early debates regarding the validity and reliability of diagnosing personality disorder (PD) in general and BPD in particular in youth (Kongerslev, Chanen, & Simonsen, 2015), there is now extensive research emphasizing the relevance of diagnosing and treating BPD in adolescence (Sharp, Ha, Michonski, Venta, & Carbone, 2012).

This literature suggests that adolescent BPD is associated with similar poor outcomes as adult BPD. For instance, PD in adolescents is both concurrently and prospectively associated with high rates of co-occuring Axis-I disorders, crime, suicide and drug- and alcohol dependence (Cohen 2008), as well as decreased social functioning (Chanen, Jovev, & Jackson, 2007), including interpersonal difficulties and work- and educational problems (Winograd, Cohen, & Chen, 2008). In adults, longitudinal research has shown that although BPD patients exhibit substantial remission in terms of DSM-criteria and symptomatology after 10- (Zanarini, Frankenburg, Reich, & Fitzmaurice, 2010), and 16-year follow-up (Zanarini, Frankenburg, Reich, & Fitzmaurice, 2012), they continue to be severely impaired in their social functions. This underscores the notion that a focus on the defining criteria of BPD alone does not necessarily provide a complete model for the understanding and treatment of BPD.

With comprehensive evidence linking BPD to poor prognosis, it is important to understand the developmental origins of BPD. This would enhance our knowledge and facilitate the design of novel interventions aiming at altering the course of BPD through changing its developmental trajectory. A promising disease mechanism that has been emerging in recent literature on both adults and

adolescent BPD is mentalizing. Mentalizing is defined by Bateman and Fonagy (2004) as the capacity to understand mental states in self and others, including the capacity to understand that human actions are rooted in mental states, such as desires, beliefs, wishes etc. (Fonagy & Target, 1997). Studies converge on demonstrating that dysfunctions in mentalizing is a core feature in patients with BPD (Sharp et al., 2011), and based on several studies linking mentalizing dysfunctions and BPD, promising theories have emerged that use mentalizing as an explanatory framework for the understanding of the developmental psychopathology of adolescent BPD (Sharp 2014).

In this paper we build on the mentalization-based work in adolescent BPD described above to integrate more recent theoretical extensions to suggest a model of adolescent BPD that links attachment, hypermentalizing and epistemic mistrust. We illustrate our model with case vignettes and emphasize the need for future empirical research to test the ideas put forward in this paper.

Attachment, mentalizing and BPD in adolescence

The construct of mentalizing is by no means new; on the contrary, it has been used in early psychoanalysis about 100 years ago (Allen, Fonagy, & Bateman, 2008). The concept of mentalizing has been used to understand different forms of psychopathology (Allen, Fonagy, & Bateman, 2008). Moreover, it is widely accepted that mentalizing is not a monolithic process but can be described on four dimensions (Bateman & Fonagy, 2011) to encompasses a: 1) cognitive/affective (that is, reflecting on thoughts or cognitions vs. affective states), a 2) self/other (that is, reflecting on the mind of another or one's own mind), 3) implicit/explicit (that is, mentalizing can be engaged explicitly and on purpose, or mentalizing can be carried out without paying attention to the process), and 4) inner/outer dimension (mental state understanding can be based on outer, facial expressions and gestures or based on inner intentions and motives), with separate neurobiological systems underlying each dimension (Allen et al., 2008). Mentalizing is related to the concepts of Theory of Mind (ToM), social cognition, metacognition and emotional sensitivity, but considered a broader concept referring

to the process of understanding and linking behaviour and mental states (see; Frith and Frith (2006) and Fonagy and Luyten (2009) for a discussion of a precise distinction).

Generally, mentalizing is crucial for interpersonal functioning since it permits people to comprehend and predict behaviour in terms of the state of their knowledge, intentions, beliefs and desires in regard to self and others (Bateman & Fonagy, 2011). Hence, mentalizing is considered necessary for adequate inter- and intra-relational attunement, including affect regulation (Weiss et al., 2006) and the ability to empathize (Shamay-Tsoory, Harari, Aharon-Peretz, & Levkovitz, 2010).

In regard to understanding the developmental features of BPD, Fonagy and colleagues have proposed a model based on principles from developmental psychopathology, psychodynamic theory, and evolutionary thinking that link attachment, and mentalizing with the development of BPD (Bateman & Fonagy, 2004; Fonagy 1989; Fonagy, Gergely, Jurist, & Target, 2002a; Sharp & Fonagy, 2008). Fonagy and colleagues suggest that BPD emerge primarily due to insecure attachment relationships formed in early interpersonal interactions with primary caregivers (Fonagy, Gergely, Jurist, & Target, 2002b). Insecure attachment, specifically fearful and preoccupied attachment, is argued to be related to the development of dysfunctional mentalizing related to BPD (Fonagy & Luyten, 2009). Attachment relations where primary caregivers display interest in the child´s mental states, and where the child feels safe to explore the mind of the caregiver, provide the child with a general curiosity to explore own and other minds (Fonagy & Luyten, 2009). When the caregiver adequately mirrors the child´s mental states, a second-order representation of the caregiver's representation of the child´s mind is formed and internalized, resulting in a coherent sense of self in the child (Fonagy et al., 2002a). The mirroring of the child has to be both *contingent* (e.g. sadness has to be mirrored with sadness, and not joy) and *marked* (e.g. the mental state being mirrored is nearly, but clearly not that of the caregiver) to avoid the internalization of an alien self (Bateman & Fonagy, 2004). Hence, a secure attachment relationship where the child experiences the caregiver as benign and accurately representing him/her as an intentional agent with thoughts, intentions, and emotions,

fosters the development of the child´s own mentalizing capacity (Fonagy et al., 2002a). However, if the attachment figures fail to adequately represent and mirror mental states, the child might acquire a propensity to misinterpret actions and intentions. This happens as a result of a failure to capture and understand underlying mental states related to both self and others (Fonagy & Luyten, 2009). This lack of adequate mental state attribution is suggested to constitute the core features of BPD pathology (see Fonagy and Luyten (2009) for a thorough description).

Mentalizing dysfunctions have also been used to explain the defining BPD criteria described in DSM-5 Section II (Sharp, 2014). For example, interpersonal instability, impulsivity, and intensive anger can be explained as fundamental dysfunctions in the capacity to mentalize. Without an adequate comprehension of mental states in self and other, interpersonal relationships are vulnerable to misunderstandings and conflict due to inappropriate representations of others' intentions, wishes or beliefs. In regard to impulsivity, dysfunctional monitoring of own emotional arousal levels could potentially result in acting on immediate desires, causing interpersonal difficulties. Similarly, the criterion of intense anger could relate to an inability to mentalize one's own mental states, and problems with engaging alternative coping strategies (e.g. acting on the spur of the moment instead of talking about mental states). Thus, mentalizing dysfunctions arguably seem to underlie many of the defining features of BPD pathology (Fonagy & Luyten, 2009).

Mentalizing and hypermentalizing in adolescence

While there is emerging clinical consensus that individuals with BPD suffer from mentalizing impairments, results from empirical studies only provide mixed support for this. On the one hand, a range of studies using different measures of mentalizing has shown that BPD patients display dysfunctional mentalizing in comparison to controls. In the studies mentioned below different instruments have been used to measure the capacity to mentalize (i.e. Reading the Mind in the eye test, Happè´s Advanced test of Theory of Mind). As discussed in the introduction, mentalizing is

regarded as an umbrella concept for the capacity to understand mental states, and can be operationalized with different measures. For example, using the ecologically valid Movie Assessment of Social Cognition test (MASC; Dziobek et al. (2006)), Preißler et al. (2010), demonstrated impaired mentalizing abilities in female BPD patients compared to healthy controls. Furthermore, BPD patients have shown dysfunctions in the emotional dimensions of mentalizing compared to a healthy control group (Harari, Shamay-Tsoory, Ravid, & Levkovitz, 2010). Herpertz and Bertsch (2014) in a review of the literature concluded that BPD is characterized by dysfunctions in cognitive aspects of mentalizing with a strong vulnerability for emotion contagion, and severe difficulties in discriminating between feelings relating to self and others.

On the other hand, several studies have failed to demonstrate differences in the capacity to mentalize between BPD patients and non-BPD patients. In a study of 25 female adult BPD patients assessed with a range of facial emotional recognition tasks, Domes et al. (2008) showed that BPD patients were not impaired in their capacity to detect and name emotions compared to healthy controls. In a virtual trust game comparing adult BPD patients with a healthy control group, Franzen et al. (2011b) found that BPD participants showed superior mental state attribution when engaging in interaction with partners compared to non-patients. In line with these findings Arntz, Bernstein, Oorschot, & Schobre (2009) showed that BPD patients tended to outperform controls on the Happé Advanced ToM test. In another study Schilling et al. (2012) employed the Reading the Mind in the Eyes Test (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), and found no differences between BPD patients and healthy controls with respect to their mindreading abilities. Similarly, Ghiassi, Dimaggio, & Brune (2010 found no differences between BPD and healthy controls in a mentalizing skills using a cartoon picture stories test of intentional states.

Sharp and colleagues (Sharp, 2014; Sharp et al., 2013) attempted to account for these inconsistencies in two papers, stressing four tentative explanations for the divergent findings described above. First, mentalizing deficits found in BPD only appears under stressful situations

where patients experience high emotional arousal, whereas in stress-free conditions mentalizing abilities appear to be intact. This argument has been elaborated by Fonagy and Luyten (2009), and further shown in an experimental study by Dixon-Gordon et al. (2011) where participants with high levels of BPD traits exhibited social-cognitive problems in conditions of experimentally-induced negative emotions.

Second, mentalizing dysfunctions are restricted to situations that require the integration of *implicit* (automatic) and *explicit* (controlled) mentalizing (Lieberman 2007). Sharp (2014) argues that this notion is supported by the findings of Harari et al. (2010) who showed that problems with higher-order mentalizing processing in BPD patients, but no inferiority in tasks where automatic and implicit mentalizing were probed. Franzen et al. (2011a) also found that BPD patients showed superior mentalizing abilities compared to controls, and argued that BPD patients potentially process social information in a more explicit mode.

Third, BPD patients show mentalizing dysfunctions only in those cases where an integration of the social-cognitive systems underpinning *emotional* and *cognitive* mentalizing is warranted. Hence, in situations where only cognitive or emotional mentalizing is warranted, BPD patients may show no problems, but when these two modalities need to be integrated difficulties arise for these patients.

The fourth possibility put forth by Sharp (2014) is that the mentalizing dysfunctions observed in BPD is not reflective of deficits in mentalizing (e.g. "no mentalizing" or "lack of mentalizing") but reflect a specific form of mentalizing named *hypermentalizing* or excessive ToM (Dziobek et al., 2006). This form of mentalizing is defined as social-cognitive processing where individuals attribute intentions, ideas, beliefs, wishes etc. to other people where there is no objective data to support such attributions (Sharp et al., 2013, 2011). Hence, hypermentalizing refers to a specific form of over-attribution of mental states to other people and often leads to misunderstandings that can impede the development of stable interpersonal relationships.

In a study examining the association between mentalizing and emerging BPD in adolescents (Sharp et al., 2011) found empirical support for the hypermentalizing hypothesis. Employing the MASC (Dziobek et al., 2006), results indicated that BPD was associated with the hypermentalizing subscale of the MASC, while no relation was found between BPD and lack of mentalizing, supporting the hypothesis that hypermentalizing is a core feature of BPD in adolescents.

Sharp (2014) proposed a model to understand hypermentalizing as the final outcome of a consecutive range of social-cognitive deficits (see figure 1). The model should be interpreted as following; emotional intense events elicit a disintegration of the different cognitive modalities in the person that causes a propensity to rely on explicit mentalizing where implicit mentalizing is required and/or vice versa. This further leads to errors in the interpretation of others' mental states and ultimately results in hypermentalizing.

(insert figure 1)

Here, we further elaborate on this model and suggest that the concept of hypermentalizing can be used to understand the mentalizing dysfunctions observed in BPD in situations where patients: 1) are in a state of high-arousal states, 2) unable to differentiate between *self* and *others* in relation to mental state attribution, 3) lack the capacity to integrate *cognitive* and *emotional* mentalizing, and 4) are unable to shift appropriately between *automatic* and *explicit* mentalizing depending on the demand of the context. Hence, we suggest that the consequences of *each* of the four scenarios presented above could potentially elicit a state of hypermentalizing (see figure 2). We suggest that the core features of BPD, such as emotional dysregulation, unstable relationships, behavioural dysregulation, identity disturbance, and intense anger emerge as a consequence of hypermentalizing. We do not claim that hypermentalizing is the only underpinning mechanism for the development of BPD in adolescence, but perceive it as an essential ingredient in the BPD pathology we observe clinically, and therefore an important treatment target.

(Insert figure 2)

Attachment, hypermentalizing and epistemic mistrust

Recently, Fonagy and Allison (2014) has refined the mentalization-based theory of BPD to encompass the developmental importance of the transmission of epistemic trust in regard to social learning within attachment contexts. This refinement is based on theories and concepts from cognitive anthropology, linguistics, cultural evolution, and developmental psychology and psychopathology. This extension of the mentalization-based theory of BPD is yet to be empirically tested, but will be reviewed here to further enhance the understanding of BPD pathology. Fonagy and Allison (2014) emphasizes that the attachment relationship between child and caregiver serves an important function beyond securing the physical and psychological development of the infant (Fonagy et al., 2002a); it also plays a pivotal role in the development of epistemic trust, which refers to trust in the authenticity of interpersonal transmitted knowledge (Sperber et al., 2010). Epistemic trust has been selected for in human evolution due to the increasingly complex and competitive nature of societies, where norms for social behaviour and knowledge about culturally construed artefacts could not be genetically transmitted across generations. Thus, learning about cultural habits, norms and objects has to take place in a developmental context, in close relationships with caregivers who are trusted. Caregivers are important attachment figures for the child's integration and socialization into the world of what Csibra and Gergely (2011) calls *teleological* and *causal opaque* action sequences and objects. This means that the meaning and function of many of our cultural habits, customs and objects cannot be deduced by sheer observation, but requires instruction and explanation.

The theory of *natural pedagogy* developed by Gergely and Csibra (2009) emphasizes that humans have evolved to both teach and learn rapidly about culturally important information. Thus, teaching and learning are fundamental to humans because information about the social world cannot be transmitted genetically, but must be acquired in social relationships (Wilson & Wilson, 2007). Hence, trusting relationships open an "epistemic superhighway" of learning possibilities that decreases the natural epistemic vigilance evolved to cope with potential mis-information from others (Fonagy, Luyten, Campbell, & Allison, 2014). Epistemic vigilance is fundamental to avoid being

deceived by other members of the culture, thus a naïve mode of epistemic trust or over-trust can potentially be harmful. On the other hand, epistemic vigilance can be excessive and turn into epistemic *hypervigilance* or *mistrust* (Fonagy & Allison, 2014) and hinder transmission of valuable social information and obstruct healthy personal development.

Social life is complex and individuals are constantly faced with challenges in regard to *what* and *whom* to believe (Sperber & Wilson, 1995). In the theory of natural pedagogy, it is suggested that communication not only conveys information about an object to the recipient, but also signals that it is being *intentionally* communicated to the recipient (Csibra & Gergely, 2009). This is called *ostensive* communication, and ostensive cues are important for information to be trusted. Ostensive cues (in the context of caregiver-infant communication) include eye-contact, special tone ("motherese"), and turn-taking, and infants have been shown to be highly sensitive to these ostensive cues (Csibra & Gergely, 2009). Ostensive cues signal to the recipient that new and relevant information is being conveyed and triggers epistemic trust, facilitating knowledge acquisition that can be generalized to many settings. As mentioned earlier, it is difficult to differentiate between what sources of knowledge should be trusted or mistrusted. Sperber (2001) describes how culturally transmitted knowledge can be trusted either because of its *content* or because of the *authority* of the person conveying the information. He argues that accepting knowledge based on the authority of the messenger is less cognitively demanding than trying to assess the trustworthiness of the content in communication. In line with Sperber's thoughts, Fiske, Cuddy, and Glick (2007) argues that there exist two universal dimensions of social cognition: *warmth* and *competence*, that signals to members of a species whether to be trusted or not. Warmth seem to be the primary judgements from which humans decide to trust another person or not, whereas competence signals the degree of the first impression (i.e. *how* negative or positive) (Fiske, Cuddy, & Glick, 2007).

From a developmental perspective the emergence of epistemic trust depends on the child's secure attachment to a sensitive and warm caregiver who recognizes the child as an intentional agent

and who is able to mentalize the child´s mental state. This triggers epistemic trust in the child and the possibility to retain and use meaningful and social relevant information for personal development and change. In contrast, maltreatment and neglect, including lack of contingent and marked mirroring and insecure attachment relationships to primary caregivers, will likely lead to widespread mistrust in information conveyed from others. The consequences of a shut-down of the superhighway of social learning is that the child is prevented from learning about the cultural world as well as using valuable feedback concerning his/her personal life and immediate actions, which is fundamental to change, development and adaptive functioning (Fonagy & Allison, 2014).

In relation to personality pathology generally, and BPD specifically, we would argue that the most critical outcome of an impoverished mentalizing milieu and insecure attachment relationship is indeed the fundamental and pervasive mistrust in communication and an inability to accept social and personal relevant information (i.e. epistemic mistrust). In figure 3 we summarize the theoretical propositions and developmental model presented thus far. In the left panel of Figure 3 it is illustrated how the maladaptive development takes place. As illustrated, the *disintegration of the child's social-cognitive system* related to *insecure attachment* and *non-contingent and unmarked mirroring*. We hypothesise that the disintegration in the social-cognitive system, is related to hypermentalizing. That means, that the addressee misinterprets the intensions of others actions as being malevolent, and that the communication conveyed will not be trusted. In other instances, the information provided is blindly trusted with no critical stance towards intentions on the meaning communicated. Hence, hypermentalizing can either result in epistemic mistrust, inhibiting social learning, or epistemic over-trust, with risk of mis-learning or being deceived and misused.

Epistemic trust can be re-established through a secure therapeutic relationship with a therapist engaged in exploring mental states contributing to a development of the patient´s mentalizing abilities. As suggested by (Fonagy & Allison, 2014), the process towards regaining epistemic trust is accelerated through the provision of an environment characterized by benign and secure attachment

relationships where a curiosity in mental states (mentalizing) is emphasized. Therefore, the context within which epistemic trust may be re-established by opening social learning channels is not restricted to the therapeutic relationship; on the contrary, the patient´s wider environment is pivotal for this process to succeed.

The right panel of Figure 3 displays how the premises for adaptive or optimal development of epistemic trust take place. First, if the child is brought up in an environment with primarily secure attachment relationships, with mentalizing caregivers that provide contingent and marked mirroring of the child´s mental states, we expect integration of the child´s social-cognitive system. This further facilitates the development of adaptive or optimal mentalizing and the capacity to accept social and cultural information. Thus, along with a natural epistemic vigilance that prevents the risk of blind trust (Yamagishi, Kikuchi, & Kosugi, 1999), epistemic trust evolves and with that, the possibility for social learning.

(Insert figure 3)

Clinical illustrations of hypermentalizing and epistemic mistrust

In this section we use clinical vignettes to illustrate how hypermentalizing results from situations where adolescents with BPD are incapable of integrating the different dimensions of mentalizing in contexts of high emotional arousal (see Figure 2). We then elaborate on these examples to show how hypermentalizing and epistemic mistrust are associated. The clinical examples presented are taken from individual and group mentalization-based therapy sessions with BPD adolescents where the first author was therapist[1].

The first example is from an individual MBT session with a 17-year-old young girl, named Gina. She had been diagnosed with BPD, ADHD and moderate depression. She lived in an institution and had only sporadic contact with her family. At the age of 11 she was removed from the family due

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[1] All clinical illustrations have been anonymized, and real names have been changed

to their incapacity to take care of her. Prior to therapy Gina had four serious suicide attempts and she was hospitalized for long periods each time. She had been self-harming on a regular basis for two years, and had a difficult time regulating her emotions both in relation to health workers and friends. Gina had expressed clear goals for her future, which included a career working with vulnerable adolescents, and at the time of her therapy she was enrolled in high-school level courses. Gina had recently broken up with her boyfriend, and was struggling to recover from the break-up. Below is a selected part of an individual session (the 13th) illustrating how a state of high emotional arousal results in hypermentalizing (Figure 2), and further develops into epistemic mistrust (Figure 3).

Therapist: So tell me about the difficult situation when you met with your ex-boyfriend…it seems to me that it was a bit frustrating for you to meet with him, is that right to put it that way?

Gina: He met with me just to see that I was still in pain…

Therapist: What was it like for you to meet with him?

Gina: Awful…I mean…I spent two hours in hell…he kept telling me about his life, and that he is going out and has a lot of new friends…so annoying…I hate him and he doesn´t respect me, just want to bug me…

Therapist: That doesn´t sound nice…did you feel anything in particular in that situation?

Gina: I fucking told you I HATE HIM…what is it you don´t get? (talks very loud, and seems agitated)

Therapist: Wow…it seems to me that you are very much upset about what happened… sorry, it wasn´t my intention to annoy you…

Gina: You all say you're sorry, but it is a lie (talks really loud and very fast)…John (ex-boyfriend), says he is sorry that we could not stay together…bullshit…he is not sorry about anything…Lisa (Gina´s contact person at the institution) says she wants to help me and tries to understand me all the time…she is not trying to understand anything or help anyone…you and all this mentalizing…

Therapist: Hold on, hold on for a second Gina, this goes really fast, and I can´t quite figure it all out…can we please pause for a second, and look at what happened here…

Gina: I don´t want to pause anything, I know what you are up to, you want to blame me, tell me it is my own fault, that I have to work with my self, that "we should try and look at it together" (makes a face)…no way, you obviously don´t want to help me, that is clear…you just want talk, I need action, action…Lisa doesn´t like me, I know for a fact, and Carl (head of the institution) ignores me on purpose…(Gina starts to cry)…

This vignette illustrates how Gina very quickly gets emotionally aroused and very annoyed during the session. She speaks louder and faster, points at the therapist and shows clear signs of anger and agitation. In relation to the idea that emotional arousal and hypermentalizing is related, we observe from the example that Gina attributes intentions to both the therapist, Lisa, as well as to Carl, that goes beyond what can actually be inferred from the current situation. In the case presented above there is no evidence or indication that the therapist, Lisa or Carl dislike Gina, or that they are blaming her for anything. When talking to Lisa, she often reports situations where Gina gets upset and furious and that Gina "imagines that other people want to hurt her or blame her". However, generally Gina doesn´t think that the therapist, or the people at the institution, including her friends, want to hurt or criticise her; it is only in situations where she gets agitated and emotionally aroused that she displays hypermentalizing.

Moreover, and in relation to epistemic mistrust, when Gina is hypermentalizing she displays mistrust in the knowledge provided to her. In the therapy session described above, Gina also needed some information regarding how to regulate her ADHD medication. The therapist had consulted the psychiatrist in the clinic for some minor changes regarding intake of her medicine. Gina was unable to trust the information provided by the therapist and did not follow the psychiatrist's advice. Lisa also reported a situation where Gina had been very agitated due to an argument with one of the employees at the institution and later the same day needed to attend a meeting with her educational counsellor. Valuable information regarding how to apply for financial aid in relation to her educational program was given, but Gina did not follow the advice and was unable to resume what has been discussed at

the meeting less than one hour after the meeting. The two examples display how Gina showed epistemic mistrust and were unable to use the valuable information provided to her.

The next example is also from an individual therapy session with Gina, illustrating how the incapacity to integrate *cognitive* and *emotional* aspects of mentalizing can contribute to a state of hypermentalizing. Furthermore, the excerpt illustrates how a state of hypermentalizing elicits mistrust in the information provided to her (epistemic mistrust). The section below is taken from the 22th therapy session, where Gina is talking about a situation where she and a friend (Anne) are talking about going to a party.

Therapist: So, to get this clear, you and Anne (Gina's friend) were talking about going to Peter's party, and you thought that Anne did not want you to come. Is that right?

Gina: Well, yeah…she was giving a lot of good arguments about her and I going to the party and having a great time. We always dance and attract a lot of attention from the boys…(laughs)…I mean we have practiced street dance in my room many times, watching YouTube videos…getting all the right moves…so, on one hand it makes sense that she wanted to take me to the party…I mean, she said all the right things…

Therapist: So, you kind of understood her reasons for inviting you to Peter's party? Is that right?

Gina: Yeah…hmm…well, I UNDERSTOOD her intentions, but I did not quit feel it that way, you know…it was like her arguments weren´t really touching me…

Therapist: So what happened afterwards?

Gina: I went into my room, and laid on my bed to relax, and started thinking, that maybe she wanted to invite me, because my ex-boyfriend was there, and she knows how much I hate that prick…and then wanted to put me in an awkward situation, so I could leave and then she could have the dance-floor for herself.

Therapist: So, in your room on the bed, you started doubting her intentions…and…(Gina interrupts)

Gina: At that time I felt that she wanted to put me in a bad light…I mean, I actually called Vicky (Gina´s best friend), to seek some advice…Even though she reminded me how kind Anne is to me all the time, it was like I did not trust the advice she was giving me…like all the things she said about Anne, which I normally recognise, I just could not believe in…I felt it different…if I had just been able to actually listen to what Vicky told me, which is right, I could have had the time of my life with Anne that night…

In the session described above, it is illustrated how Gina was unable to integrate *cognitive* and *emotional* aspects of mentalizing. She understood Anne's rationale for inviting her to the party, based on their history and prior experiences together. Cognitively, she mentalized Anne, listening to her arguments and put them together; however, emotionally she did not feel that Anne wanted her to come. Unable to integrate emotional and cognitive mentalizing, Gina displayed states of hypermentalizing, and attributed mental state intention to Anne (i.e. that Anne invited her to feel awkward) of which there was no obvious proof in the situation. Furthermore, the hypermentalizing state shut down Gina's ability to accept knowledge presented to her. She called Vicky, who provided her with reasonable and objective knowledge about Gina and Anne's history. Nevertheless, Gina was incapable of using the knowledge that could have helped her in the situation (epistemic mistrust).

The next case vignette is taken from a MBT-group session with seven adolescent girls (age 16 to 18) diagnosed with BPD. This vignette illustrates how a lack of differentiation between mentalizing in relation to self and other can result in a state of hypermentalizing and how this can contribute to a state of epistemic mistrust. The example is from the 11th session where two girls from the group (Tina and Mille) were discussing whether self-harm was an appropriate way to cope with stress. Tina recounted a situation in the group where her mom refused to take her to a friend's party. The same day, her farther, who lived with a new girlfriend in another city, had forgotten about an appointment with Tina. Tina felt really stressed out, went to her room and self-harmed. Tina was reporting the

situation to the group, and Mille interrupted her several times validating her self-harming actions, and approving what she did.

Therapist: So, Tina you told us that you felt really stressed out prior to your self-harming. I was wondering if the group gets curious about anything about what Tina is telling us?

Mille: I understand you Tina, I would do the exact same thing if I was in your situation…I mean your father is a fool forgetting about your appointment and your mum obviously doesn´t understand what it´s all about…

Tina: Well, I would really like to understand why it all ended up like it did…I mean after starting in the group I think I have been putting a lot of effort in trying to do something different than…(Mille interrupts her)

Mille: Tina, come on…there is nothing to understand here…you were stressed out, and your mum decided not to help you and you cut yourself…what is there to understand here…I do the same in those situations…I think people around us really need to take it serious that we are struggling every minute to make things work…we have to show them that we mean it seriously, all of us…

Therapist: Hold on a second here Mille, Let us try and stick to Tina's story, and see if we can understand what happened in her situation, is that all right with you?

Mille: Yeah, but I really think that is what I am doing…I mean I have always reacted in the same way as Tina in those situations where people ignore my obvious signals about what I want and need…

Sofia (another group member): Mille, I think you are not listening to what Tina wants us to do…I understand that she wants us to look at what happened that day because she wants to avoid self-harming in the future…

Mille: I am having a hard time understanding that point…I mean we all need to show the people we love how seriously we are suffering, that they should actually take us seriously…don´t you get that…I mean what are you up to…I feel like you guys wants to convince me that self-harming should be

avoided at all costs, it feels like you want ME to let go of my wish to show people that I have a misery life…

The excerpt above illustrates how a lack of differentiation between mentalizing *self* and *other* results in a state of hypermentalizing. Mille was confusing her own intention (showing the world by self-harming that her life was a struggle) with Tina's intention about wanting to explore what led to her self-harming behaviour. Hence, Mille was not able to differentiate between her own intentions (mentalizing the self) and the intentions of Tina (mentalizing the other). In approving Tina's actions she was not able to mentalize her intentions (that Tina really wanted to inquire what had happened), but instead used her own intentions and thought they were equivalent to those of Tina. Towards the end of the group session, a theme regarding internet dating emerged, because a group member (Ditte) had an experience with a guy from a dating site who had her mail him pictures, which he later shared on the internet. The group initiates a general discussion about precautions regarding internet dating, and shared information based on their own experiences. As a result of the state of hypermentalizing Mille displayed clear signs of being incapable of accepting knowledge from the rest of the group (epistemic mistrust).

Therapist: What, was your feeling Ditte, when you discovered what have happened (i.e. that the guy had uploaded her pictures on the net)?

Ditte: I was so angry, I wanted to kill him…I mean, I kind of liked him…I actually trusted him…you can´t trust anything or anyone…

Sofia: My experience is that you should never mail pictures to guys you don´t know…you are giving them the potential to exploit you…

Tina: Yeah, I have experienced a guy who threatened to upload pictures if I did not pay him 200 kr. (Danish currency)…I have stopped mailing pictures to guys…

Mille: Well, I don´t think that is right…I trust all the guys, it depends on how well you know them…I will keep mailing them pictures…

The last clinical example displays how the incapacity to shift between *implicit* (automatic) and *explicit* mentalizing results in hypermentalizing and, in turn, the development of epistemic mistrust. It is taken from an individual MBT therapy session with a 17-year-old boy (Jesper) diagnosed with BPD. Jesper had a girlfriend for two years, but he often felt that she did not pay enough attention to him and felt that she frequently criticized and devaluated him. He had been hospitalized several times, the last time for a three months episode. The example below is from the 7th session. Jesper started the session by reporting a situation where he had an argument with his girlfriend prior to leaving the house for the cinema.

Therapist: Okay Jesper, so you and Christina (girlfriend) were about to leave the house, and then you felt that she was criticizing you, is that right?

Jesper: Yeah, she was kind of looking at me with those strange eyes you know, like she didn´t want to go. I spent a whole lot time trying to figure out what was going on…I mean, she was searching the whole house for that new handbag she got from her mum… like if she didn´t care about me, about our date…she wanted to tell me that I could just go on my own…that she didn´t want to go with me…I am sure about that…

Therapist: Ok, how was that Jesper, how was it for you in the situation?

Jesper: It was a horrible feeling…I mean I was kind of scared that she would cancel our date…really thinking - the night is ending here, we are not going anywhere…it was terrible…I was looking so much forward to the movie, and just going out, just leaving the house for a while, and not staying alone all by my …

Therapist: Hmm…yeah, I can understand that, it must have been a tough situation. But Jesper, I am a bit curious about what you just told me before about what happened when you were about to leave the house. I am having a hard time understanding - why you think she didn´t care about you in that situation… Can we take a closer look on that?

Jesper: Yeah, I guess that is okay…well, I could tell by her eyes that she wasn´t interested in me…she had that look in her eyes…she just wanted that bag…not going out with me…her movements - very focused, going through all her stuff with this intensity…like nothing else mattered…I even called her twice…and she went 'hold on for a second'…I mean, that is obvious right…I was really concentrated on her expressions…trying to figure out what was going on…so I know I am right…she wasn´t interested at all in leaving the house…women and handbags - makes me crazy!

Therapist: Well, it sounds like you paid a lot of effort to figure out what was going on in her, but I am wondering whether you two talked about it in the situation, or if it was a lot of guessing going on?

Jesper: Not a lot of talking, but I mean I was sure what she was up to, and I told her, and then she tried to convince me that she really wanted to go out with me…but it was like I just couldn´t use that information, I mean I did not trust her, she was talking bullshit…I knew what she was up to, and she couldn´t convince me otherwise…

In the clinical example above, Jesper displayed the use of inappropriate explicit mentalizing. He was paying too much attention to why his girlfriend acted as she did. He was focussing on his girlfriend's facial expressions, gestures and movements in an exaggerated manner. In a situation where it would be more obvious to rely on implicit mentalizing, Jesper engaged in explicit reflections in relation to what his girlfriend thought and wanted. The propensity for adolescents with BPD to engage in explicit mentalizing in contexts where it would be more appropriate to rely on implicit or automatic mentalizing has been reported and described in the literature (Sharp, 2014). The consequence in Jesper's case is that he over-attributed mental intentions to his girlfriend. He was in a state of hypermentalizing, and as a consequence he was unable to adjust his perceptions and use the information that his girlfriend presented to him (epistemic mistrust).

Clinical implications and conclusion

In reflecting on the above case vignettes, we conclude the paper with the following clinical implications for addressing hypermentalizing and epistemic mistrust. First, when working with

adolescents, BPD interventions need to be adapted so that disintegration of the social-cognitive system is avoided. This has been described by Bateman and Fonagy (2004), as the major aim of mentalization-based therapy, namely to re-establish the balance between different dimensions of mentalizing. For example, if patients display a pattern of excessive cognitive oriented mentalizing, it is the therapist's task to introduce a focus on the emotional aspects of social cognition, and if a patient focus solely on mentalizing the self, the therapist must try to engage patient in reflections regarding the other. The aim of therapy in this regard is to avoid both hypermentalizing and the consequent shut-down of the epistemic trust (and thereby the chance to learn from others).

   Second, during therapy with adolescents with BPD it is pivotal to monitor the level of emotional arousal. It is important to prevent patients from becoming emotionally over-aroused because that could result in a state of hypermentalizing and consequently a state of epistemic mistrust.

   Finally and more generally, inspired by Gallotti and Frith (2013)´s theories on social cognition and shared intentionality, we suggest that the therapist and patient must work in interaction-based mental spaces that is fundamental for developing new models of minds (self and other). Evidence from social-cognitive experiments have shown how individuals engaged in real-time social interaction can attain better knowledge about self and others, which can then be used to attribute mental states to self and other (Gallotti & Frith, 2013). The point raised here is that when patient and therapist interact, they obtain interpersonal awareness through a meeting of minds (Michael, 2011) that broaden the understanding of feelings, thoughts and behaviours of the other person, and provide new options for future actions. Shared intentionality refers to processes that form and sustain a collective psychological mode, which Gallotti and Frith (2013) name the "we-mode". Through participatory sense-making (De Jaegher & Di Paolo, 2007) meaning and knowledge about the other mind is achieved. The we-mode represents situations where interacting agents share their minds and acknowledge the contributions to a common goal, as something that they do together, as a "we"(Gallotti & Frith, 2013). Hence, representing the perspective of the other person on a topic as a

condition to act jointly moderates the way we perceive and behave because we are provided with information that is not available through sheer observation (Gallotti, 2013). Thus, for the clinician working with BPD in adolescents we encourage work in we-mode, that is to centre the clinical work on a mutual and participatory process where mind meets mind, and information about self and other are exchanged and generalized. With this, we suggest, epistemic trust is engaged, and the capacity to *learning to trust* and *trusting to learn* (Landrum, Eaves, & Shafto, 2015) new information is re-established. We don't consider working in the we-mode is specifically tailored to any of the specialized treatment programs for BPD (i.e. Dialectical Behavioural Therapy, Mentalization-Based Therapy etc.), but we consider the aim of achieving the capacity to mentalize and acquiring epistemic trust to be associated with the process of working within we-mode processes. This can be achieved within mentalizing and securely attachment relationships, as suggested in Figure 3, as well within a Cognitive Behavioural Therapy framework, where the Socratic dialog is used as an important therapeutic tool.

In conclusion we note two caveats. First, the clinical implications described above, while derived from our clinical work with adolescents, may also be usefully applied to adults with BPD. Second, much of the material presented here is clinically and theoretically-based and warrants empirical investigation. We hope that this practice review has usefully delineated the associations between disintegrated social-cognitive modalities, hypermentalizing, epistemic mistrust and we-mode processes to lay the foundation for further empirical evaluation.

Disclosure statement

References

Allen, J. G., Fonagy, P., & Bateman, A. (2008). *Mentalizing in clinical practice.* Arlington: American Psychiatric Pub.

Arntz, A., Bernstein, D., Oorschot, M., & Schobre, P. (2009). Theory of mind in borderline and cluster-c personality disorder. *The Journal of Nervous and Mental Disease*, *197*(11), 801-7. doi:10.1097/NMD.0b013e3181be78fb

Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The reading the mind in the eyes test revised version: A study with normal adults, and adults with asperger syndrome or high-functioning autism. *Journal of Child Psychology and Psychiatry*, *42*(2), 241-251.

Bateman, A., & Fonagy, P. (2004). *Psychotherapy for borderline personality disorder: Mentalization-based treatment.* Oxford ; New York: Oxford University Press.

Bateman, A. W., & Fonagy, P. (2011). *Handbook of mentalizing in mental health practice.* Washington DC: Amer Psychiatric Pub Inc.

Bernstein, D. P., Cohen, P., Velez, V. N., Schwab-Stone, M., Siever, L. J., & Shinsato, L. (1993). Prevalence and stability of the DSM-III-R personality disorders in a community-based survey of adolescents. *The American Journal of Psychiatry*, *1*(50), 1237.

Chanen, A. M., Jovev, M., & Jackson, H. J. (2007). Adaptive functioning and psychiatric symptoms in adolescents with borderline personality disorder. *The Journal of Clinical Psychiatry*, *68*(2), 297-306.

Cohen, P. (2008). Child development and personality disorder. *Psychiatric Clinics of North America*, *31*(3), 477-493.

Csibra, G., & Gergely, G. (2009). Natural pedagogy. *Trends in Cognitive Sciences*, *13*(4), 148-53. doi:10.1016/j.tics.2009.01.005

Csibra, G., & Gergely, G. (2011). Natural pedagogy as evolutionary adaptation. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, *366*(1567), 1149-57. doi:10.1098/rstb.2010.0319

Dixon-Gordon, K. L., Chapman, A. L., Lovasz, N., & Walters, K. (2011). Too upset to think: The interplay of borderline personality features, negative emotions, and social problem solving in the laboratory. *Personality Disorders: Theory, Research, and Treatment*, *2*(4), 243-260.

Domes, G., Czieschnek, D., Weidler, F., Berger, C., Fast, K., & Herpertz, S. C. (2008). Recognition of facial affect in borderline personality disorder. *Journal of Personality Disorders*, *22*(2), 135-47. doi:10.1521/pedi.2008.22.2.135

Dziobek, I., Fleck, S., Kalbe, E., Rogers, K., Hassenstab, J., Brand, M., . . . Convit, A. (2006). Introducing MASC: A movie for the assessment of social cognition. *Journal of Autism and Developmental Disorders*, *36*(5), 623-36. doi:10.1007/s10803-006-0107-0

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77-83. doi:10.1016/j.tics.2006.11.005

Fonagy, P. (1989). On tolerating mental states: Theory of mind in borderline personality. *Bulletin of the Anna Freud Centre*, *12*, 91-115.

Fonagy, P., & Allison, E. (2014). The role of mentalizing and epistemic trust in the therapeutic relationship. *Psychotherapy (Chicago, Ill.)*, *53*(3), 372-380. doi:10.1037/a0036505

Fonagy, P., & Luyten, P. (2009). A developmental, mentalization-based approach to the understanding and treatment of borderline personality disorder. *Development and Psychopathology*, *21*(4), 1355-81. doi:10.1017/S0954579409990198

Fonagy, P., & Target, M. (1997). Attachment and reflective function: Their role in self-organization. *Development and Psychopathology*, *9*(4), 679-700.

Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002a). *Affect regulation, mentalization, and the development of the self* (Vol. 1). New York: Other Press.

Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002b). *Affect regulation, mentalization, and the development of the self* (Vol. 1). New York: Other Press.

Fonagy, P., Luyten, P., Campbell, C., & Allison, L. (2014). Epistemic trust, psychopathology and the great psychotherapy debate. [Web Article] (Web Article). Retrieved from http://www.societyforpsychotherapy.org/epistemic-trust-psychopathology-and-the-great-psychotherapy-debate.

Franzen, N., Hagenhoff, M., Baer, N., Schmidt, A., Mier, D., Sammer, G., . . . Lis, S. (2011a). Superior 'theory of mind' in borderline personality disorder: An analysis of interaction behavior in a virtual trust game. *Psychiatry Research*, *187*(1-2), 224-33. doi:10.1016/j.psychres.2010.11.012

Franzen, N., Hagenhoff, M., Baer, N., Schmidt, A., Mier, D., Sammer, G., . . . Lis, S. (2011b). Superior theory of mindin borderline personality disorder: An analysis of interaction behavior in a virtual trust game. *Psychiatry Research*, *187*(1), 224-233.

Frith, C. D., & Frith, U. (2006). The neural basis of mentalizing. *Neuron*, *50*(4), 531-4. doi:10.1016/j.neuron.2006.05.001

Gallotti, M. (2013). Why not the first-person plural in social cognition? *The Behavioral and Brain Sciences*, *36*(4), 422-3. doi:10.1017/S0140525X12001914

Gallotti, M., & Frith, C. D. (2013). Social cognition in the we-mode. *Trends in Cognitive Sciences*, *17*(4), 160-5. doi:10.1016/j.tics.2013.02.002

Ghiassi, V., Dimaggio, G., & Brune, M. (2010). Dysfunctions in understanding other minds in borderline personality disorder: A study using cartoon picture stories. *Psychotherapy Research : Journal of the Society for Psychotherapy Research*, *20*(6), 657-67. doi:10.1080/10503307.2010.501040

Gunderson, J. G., & Links, P. S. (2008). *Borderline personality disorder : A clinical guide.* Washington, DC: American Psychiatric Pub.

Harari, H., Shamay-Tsoory, S. G., Ravid, M., & Levkovitz, Y. (2010). Double dissociation between cognitive and affective empathy in borderline personality disorder. *Psychiatry Research*, *175*(3), 277-9. doi:10.1016/j.psychres.2009.03.002

Herpertz, S. C., & Bertsch, K. (2014). The social-cognitive basis of personality disorders. *Current Opinion in Psychiatry*, *27*(1), 73-7. doi:10.1097/YCO.0000000000000026

Hill, J., Pilkonis, P., Morse, J., Feske, U., Reynolds, S., Hope, H., . . . Broyden, N. (2008). Social domain dysfunction and disorganization in borderline personality disorder. *Psychological Medicine*, *38*(1), 135-46. doi:10.1017/S0033291707001626

De Jaegher, H., & Di Paolo, E. (2007). Participatory sense-making. *Phenomenology and the Cognitive Sciences*, *6*(4), 485-507.

Kongerslev, M. T., Chanen, A. M., & Simonsen, E. (2015). Personality disorder in childhood and adolescence comes of age: A review of the current evidence and prospects for future research. *Scand J Child Adolesc Psychiatr Psychol*, *3*(1), 31-48.

Landrum, A. R., Eaves, B. S., & Shafto, P. (2015). Learning to trust and trusting to learn: A theoretical framework. *Trends in Cognitive Sciences.* doi:10.1016/j.tics.2014.12.007

Lieberman, M. D. (2007). Social cognitive neuroscience: A review of core processes. *Annu. Rev. Psychol.*, *58*, 259-289.

Michael, J. (2011). Interactionism and mindreading. *Review of Philosophy and Psychology*, *2*(3), 559-578.

Preißler, S., Dziobek, I., Ritter, K., Heekeren, H. R., & Roepke, S. (2010). Social cognition in borderline personality disorder: Evidence for disturbed recognition of the emotions, thoughts, and intentions of others. *Frontiers in Behavioral Neuroscience*, *4*, 182. doi:10.3389/fnbeh.2010.00182

Schilling, L., Wingenfeld, K., Löwe, B., Moritz, S., Terfehr, K., Köther, U., & Spitzer, C. (2012). Normal mind-reading capacity but higher response confidence in borderline personality disorder

patients. *Psychiatry and Clinical Neurosciences*, *66*(4), 322-7. doi:10.1111/j.1440-1819.2012.02334.x

Shamay-Tsoory, S. G., Harari, H., Aharon-Peretz, J., & Levkovitz, Y. (2010). The role of the orbitofrontal cortex in affective theory of mind deficits in criminal offenders with psychopathic tendencies. *Cortex; A Journal Devoted to the Study of the Nervous System and Behavior*, *46*(5), 668-677. doi:10.1016/j.cortex.2009.04.008

Sharp, C. (2014). The social-cognitive basis of BPD: A theory of hypermentalizing. In C. Sharp & J. L. Tackett (Eds.), *Handbook of borderline personality disorder in children and adolescents* (1 ed., Vol. 1, pp. 211-225). New York: Springer.

Sharp, C., & Fonagy, P. (2008). The parent's capacity to treat the child as a psychological agent: Constructs, measures and implications for developmental psychopathology. *Social Development*, *17*(3), 737-754.

Sharp, C., Ha, C., Carbone, C., Kim, S., Perry, K., Williams, L., & Fonagy, P. (2013). Hypermentalizing in adolescent inpatients: Treatment effects and association with borderline traits. *Journal of Personality Disorders*, *27*(1), 3-18. doi:10.1521/pedi.2013.27.1.3

Sharp, C., Ha, C., Michonski, J., Venta, A., & Carbone, C. (2012). Borderline personality disorder in adolescents: Evidence in support of the childhood interview for DSM-IV borderline personality disorder in a sample of adolescent inpatients. *Comprehensive Psychiatry*, *53*(6), 765-74. doi:10.1016/j.comppsych.2011.12.003

Sharp, C., Pane, H., Ha, C., Venta, A., Patel, A. B., Sturek, J., & Fonagy, P. (2011). Theory of mind and emotion regulation difficulties in adolescents with borderline traits. *Journal of the American Academy of Child and Adolescent Psychiatry*, *50*(6), 563-573.e1. doi:10.1016/j.jaac.2011.01.017

Sperber, D. (2001). An evolutionary perspective on testimony and argumentation. *Philosophical Topics*, 401-413.

Sperber, D., & Wilson, D. (1995). *Relevance: Communication and cognition* (2nd ed.). Oxford; Cambridge, MA: Blackwell Publishers.

Sperber, D., Clément, F., Heintz, C., Mascaro, O., Mercier, H., Origgi, G., & Wilson, D. (2010). Epistemic vigilance. *Mind & Language*, *25*(4), 359-393.

Weiss, E. M., Kohler, C. G., Nolan, K. A., Czobor, P., Volavka, J., Platt, M. M., . . . others. (2006). The relationship between history of violent and criminal behavior and recognition of facial expression of emotions in men with schizophrenia and schizoaffective disorder. *Aggressive Behavior*, *32*(3), 187-194. doi:10.1002/ab.20120

Wilson, D. S., & Wilson, E. O. (2007). Rethinking the theoretical foundation of sociobiology. *The Quarterly Review of Biology*, *82*(4), 327-48.

Winograd, G., Cohen, P., & Chen, H. (2008). Adolescent borderline symptoms in the community: Prognosis for functioning over 20 years. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *49*(9), 933-41. doi:10.1111/j.1469-7610.2008.01930.x

Yamagishi, T., Kikuchi, M., & Kosugi, M. (1999). Trust, gullibility, and social intelligence. *Asian Journal of Social Psychology*, *2*(1), 145-161.

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., & Fitzmaurice, G. (2010). The 10-year course of psychosocial functioning among patients with borderline personality disorder and axis II comparison subjects. *Acta Psychiatrica Scandinavica*, *122*(2), 103-9. doi:10.1111/j.1600-0447.2010.01543.x

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., & Fitzmaurice, G. (2012). Attainment and stability of sustained symptomatic remission and recovery among patients with borderline personality disorder and axis II comparison subjects: A 16-year prospective follow-up study. *The American Journal of Psychiatry*, *169*(5), 476-83.