MENTALIZATION AND CLINICAL PSYCHOPATHOLOGY

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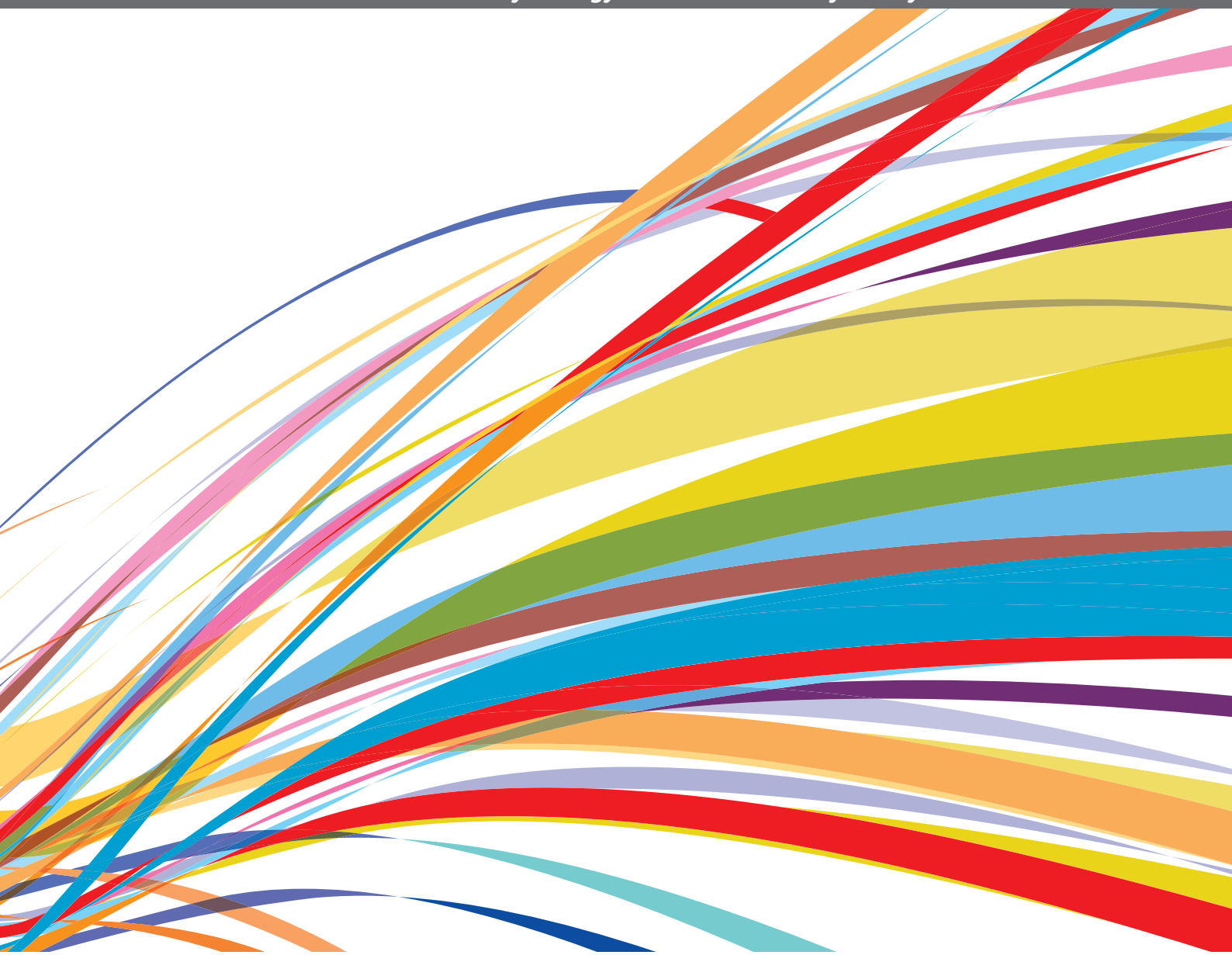

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MENTALIZATION AND CLINICAL PSYCHOPATHOLOGY

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EDITORIAL
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Editorial: Mentalization and Clinical Psychopathology

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Keywords: mentalization, psychopathology, theory of mind, psychotherapy, coherence

Editorial on the Research Topic

Mentalization and Clinical Psychopathology

Mentalization as a function and construct is defined as a specific form of imaginary mental activity related to the perception and interpretation of human behavior in terms of mental states motivated by intentions—e.g., needs, desires, feelings, beliefs, and goals (Fonagy and Target, 2006; Allen et al., 2008; Fonagy and Allison, 2013). Mentalization includes both cognitive and affective facets, or in other words, thinking about feelings and thinking about thinking (Fonagy and Target, 2006). This resource is developed in childhood through interpersonal interactions with a more mature mindset and it is based on the attachment quality with the main caregiver of the child. The dynamics of these two facets allows thinking about the quality of emotional reflection subjective experiences in childhood (Bateman and Fonagy, 2012). In the broadest sense, mentalization involves a process of transformation of elements via the Freudian concept called "binding," or in English "binding." It is an Ego function that transforms immediate physical quantities with associative mental ones in order to limit the free flow of arousal. It is a process of connecting ideas with each other, creating more sustainable forms, and establishing associative pathways, as part of secondary reprocessing, in order to adapt to external reality by creating sustainable representations of oneself and others.

In the last two decades, mentalization theory, mentalization-based therapy, and their relation to psychopathology have gained great popularity. This has opened new horizons for the definition and treatment of various psychopathological phenomena.

This Research Topic delivers special emphasis on whether and to what extent it is possible for mentalization to answer questions that have been raised by the diagnosis and treatment of various psychopathological conditions.

We assume that this provides a meaningful view of both the relevance of different aspects of mentalization and the introduction of new explanatory models for different types of psychopathology. Thus, the various papers contribute to the identification of psychopathological phenomena and their therapy.

In this Research Topic, we have attempted to consider integrating studies on various psychopathological phenomena. Particularly, nine articles have been published on various topics, they all are related to the analysis of mentalization, mentalization potential, the theory of mind, the theory of attachment, and their relations to various psychopathologies. Three of the articles present the difficulties and peculiarities of mentalization in therapeutic work (Wiwe; De la Cerda and Dagnino; Tohme and Kolev). One of the articles introduces a new approach to understanding the relations between attachment, reflexive parenting, mentalization, and body image (Bonev and Matanova). There is proposed in the latter an approach to the body image as a construct of human development, arising and developing from the relations of attachment, into the provision of security and protection. Another article introduces a new technology for assessing the condition during a clinical interview (Villanueva-Valle et al.).

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Another focus is the article that discusses the coherence and influence of mentalization on burnout in health professionals in the COVID era (Stoyanova and Stoyanov). This paper is particularly relevant, given the challenges imposed by the ongoing epidemic situation on health care employees and the frequent manifestations of burnout among medical staff. Three articles are dedicated to the role of mental potential in the establishment of differential diagnostic criteria and biological markers for various psychopathological states (Helt et al.; Villanueva-Valle et al.; Vegni et al.).

A case study reports interesting perspectives on reflective parenting, mental potential, and theory of mind in children on the autistic spectrum disorders (Kostova).

The phenomenological content takes into account the modern understanding of mentalization and its relation with other mental constructs and psychological theories and provides new perspective for the understanding of mental disorders.

In conclusion, this is Research Topic addresses key issues in the relation between mentalization and psychopathology. In particular, it brings insight into the need for further investigation of the impact of mentalization and mental potential on major psychiatric conditions and outlines the contribution of mentalization to a wide range of psychopathological manifestations. This may support the formation of an evolutionary idea of how psychopathology could well be well explained and then re-attuned in terms of treatment by the theory of mentalization, theory of mind, and empathy.

Last but not least, we sincerely thank all the authors who provided their articles and actively contributed, allowing us to coordinate and edit this outstanding collection.

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All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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OPINION
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Empathy, Mentalization, and Theory of Mind in Borderline Personality Disorder: Possible Overlap With Autism Spectrum Disorders

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INTRODUCTION

Autism spectrum disorder (ASD) is characterized by persistent deficits in social communication and interaction, behavior patterns, and narrow and repetitive interests or activities. Individuals with an ASD diagnosis have an atypical social approach to conversation reciprocity and a reduced sharing of interests, emotions, or feelings. Their verbal and non-verbal communication is poorly integrated, anomalies in eye contact and body language are present, as well as difficulties in understanding and using gestures (American Psychiatric Association, 2013). Over time the hypothesis has been confirmed that at the basis of the social compromises characterizing autism there are impairments in theory of mind (ToM), i.e., the ability to attribute mental states to people in order to explain and predict their behavior (Baron-Cohen et al., 1985; Baron-Cohen, 1995).

Some studies have related ASD to personality disorders, as shown by recent reviews of the literature, highlighting that there is a percentage of comorbidity between the autistic spectrum and psychopathological traits (Matson and Nebel-Schwalm, 2007; Matson and Goldin, 2013; Mannion et al., 2014). In relation to the analyses found in the literature, the disorder that in our opinion shows particular possible overlaps with ASD in terms of lack of empathy and theory of mind seems to be BPD.

Borderline personality disorder (BPD) is characterized by pervasive disadaptive modes of thought and behavior. BPD, as stated in DSM-5 (American Psychiatric Association, 2013), presents a pervasive pattern of interpersonal relationships, self-image and mood instability, and a marked impulsiveness, which generally begins in early adulthood in different contexts of daily life. Its distinctive features include emotional dysregulation, fear of neglect, malfunctioning in interpersonal relationships, fractioned thinking, and difficulty in impulse control.

Many studies have been conducted to identify the components of borderline personality disorder, including emotional dysregulation (Yen et al., 2002; Conklin et al., 2006), attachment (Fonagy, 2000), and theory of mind (Harari et al., 2010; Franzen et al., 2011). Emotional dysregulation is known as one of the main symptoms in patients with borderline personality disorder. Many studies have found that many borderline personality traits are the result of emotional dysregulation (Barnow et al., 2012; Ghiasi et al., 2016; Salgado et al., 2020). Studies have also revealed that people with this disorder have problems identifying, distinguishing, and integrating their own emotions with those of other individuals (Harari et al., 2010).

Recently, many have begun to consider empathy as a construct composed by two components, one cognitive and one affective (Baron-Cohen and Wheelwright, 2004; Shamay-Tsoory, 2011). Affective empathy involves the experience of the feelings and emotions of others through recognition, sensitivity to the emotions of others, and sharing the emotional experiences of others through an affective response appropriate to the situation of the other (Batchelder et al., 2017).

Cognitive empathy involves the process of understanding another person's perspective by adopting another person's point of view. The ability to adopt another person's point of view is

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consistent with the concept of theory of mind (ToM). Cognitive empathy also includes the ability to judge and understand the intentions of others in order to monitor one's own intentions (Batchelder et al., 2017).

This paper presents some opinions drawn from the analysis of literature from the last 20 years which has analyzed the link between ASD and personality disorders, and specifically BPD. The articles were selected according to the time criterion of the year of publication through the PUBMED database.

Papers that included the following keywords were considered: "borderline personality disorders and empathy,". "borderline personality disorders and theory of mind," "borderline personality disorders and autism," "autism and empathy," and "autism and theory of mind." Papers published between 2000 and 2020 were included.

The only articles outside the timeframe that were included were related to theoretical constructs.

OVERLAPS BETWEEN BPD AND ASD

Difficulties related to the social and relational fields are characteristics found in patients with BPD, as well as in patients with ASD. Considering patients with high functioning autism, Hofvander et al. (2009) showed that 68% of the sample, composed of adults with ASD, met the criteria for at least one personality disorder. In accordance with this, when checking for possible personality disorders in a group of young adults with Asperger's syndrome, a study showed a considerable overlap of symptoms between Asperger's syndrome and some personality disorders (Lugnegård et al., 2012). Baron-Cohen et al. (1985) emphasizes how the social and communicative difficulties of ASD subjects can be traced back to a deficiency of maturation of the theory of mind (ToM), or rather, of the cognitive mechanism responsible for the analysis of one's own and others' mental states, as well as highlighting in these subjects important difficulties in terms of empathy. Considering empathy as the ability to understand another's state of mind and systematization as the ability to perceive the models of change (the rules) that allow us to understand how things work and predict their future, some authors (Wheelwright et al., 2006) have developed a theory according to which different brain types are attributed to individuals according to their tendency to be more empathic or systematic.

Baron Cohen compared ASD with BPD in terms of lack of empathy and specifically with a "zero degree of empathy" measured with the Empathy Quotient (EQ) (Wheelwright et al., 2006; Baron-Cohen, 2011) as both disorders would manifest difficulties in social and interpersonal interactions as discriminating symptoms.

As for systematization ability, measured by the Systematization Quotient (SQ) (Goldenfeld et al., 2005; Wheelwright et al., 2006) patients with BPD would show low levels while patients with ASD would show higher levels than the average of normo-typical subjects. This difference would explain the tendency of ASD subjects to follow rules and the tendency to deviance and take risks in BPD subjects (Baron-Cohen, 2011). The study conducted by Dudas et al. (2017) analyzed a sample of subjects, including ASD, BPD, double-diagnosed, and normo-typical (NC) subjects compared according to EQ and SQ indices. In the SQ-R measure, all clinical groups had a statistically significant score that was higher than the control group. These data, which show high levels of systematization in patients with BPD as well as in patients with ASD, seem to contrast the idea that it is precisely systematization that differentiates BPD from ASD in relation to the tendency of the former to take risks and be impulsive and therefore to place themselves within a "spectrum of empathy" equal to negative zero rather than positive (Baron-Cohen, 2011).

It has been clarified in the literature that a lack of empathy is a hallmark of ASD (Harmsen, 2019; Stroth et al., 2019).

At the same time, scientific literature presents various evidence in favor of empathic and mentalization deficits in BPD, which can be interpreted as possible causes of social and relational problems. Baron-Cohen describes the empathic difficulties of patients with BPD, in relation to the recognition and response components, describing them as deficient in reacting to others with an appropriate emotion (empathic response), and with difficulty in effectively and precisely determining the intentions and emotions of others' facial expressions (Baron-Cohen, 2011) In a study, how ambiguity of stimuli can lead to a reduction in cognitive or emotional empathy in BPD was discussed (Niedtfeld, 2017). Video clips were shown to 34 patients with BPD and 32 controls, through which vocal content, prosodies, and facial expressions were presented. BPD patients showed greater emotional empathy when the proposed stimuli included emotions expressed in a non-verbal way, while with regard to cognitive empathy, there were no significant differences between BPD and controls. These results suggest that subjects with BPD show altered emotional empathy, experiencing higher rates of emotional contagion when emotions are expressed non-verbally. The latter may contribute to misunderstandings and inappropriate social behavior. Differences in amygdala activation in subjects with BPD compared to control subjects were also found in a study revealing difficulty in understanding neutral facial expressions, often interpreting them as threatening (Donegan et al., 2003). Regarding the analysis of the different components of empathy involved in BPD, using a self-report measure of empathy, the Interpersonal Reactivity Index (IRI; Davis, 1983), a study showed that women diagnosed with BPD showed higher average levels of affective empathy and lower average levels of cognitive empathy, compared to a control sample of women with anorexia nervosa and an undiagnosed control group (Guttman and Laporte, 2002). These results were confirmed by another research that demonstrated a "double dissociation" of cognitive and affective empathy in BPD, suggesting that the behavioral difficulties manifested in BPD can be explained by a dysfunctional model of empathic capacity (Harari et al., 2010). The authors started from the hypothesis that the interpersonal malfunction typical of BPD would find justification in their low levels of cognitive empathy and theory of mind, while higher levels of affective empathy would account for emotional hyperactivity.

To evaluate the cognitive and affective aspects of empathy IRI was used, while the faux pas recognition test was adopted for measurements related to the theory of mind (Phillips et al., 1998). The results found that the controls had higher IRI scores

in the cognitive component of empathy than in the affective component, whereas the BPD group showed the opposite pattern. Significant differences were shown between BPD patients and the control group in the understanding of the theory of the cognitive mind but not in the emotional one, detected with the faux pas recognition test. In the study BPD patients showed worse performance in both cognitive empathy and cognitive mind theory measures, but there were no differences in the understanding of emotional mind theory, while the affective aspects of empathy were even better in patients with BPD. Providing support in terms of neurobiological comparison to the "dissociation" of cognitive and affective empathy in BPD, a study, including fMRI data, showed that patients with BPD compared to controls showed lower activation during cognitive empathy activities in the upper temporal fissure (STS), an area associated with the inference of other people's mental states (Zaki et al., 2009), but greater activation in the medium insular cortex (Jackson et al., 2006), an area associated with personal distress, during activities involving emotional empathy (Dziobek et al., 2011). Moreover, considering the typical manifestations of the borderline personality, two processes were put in relation to empathic dysfunctions: emotional dysregulation, i.e., highly uncontrolled emotional reactivity, an inability to modulate internal emotions, resulting in an inappropriate emotional and behavioral response (Linehan, 1993; Gratz et al., 2006) and hyper-mentalization, i.e., a misinterpretation or a sort of super reference of one's own and others' thoughts and feelings (Sharp et al., 2011, 2013). Another study examined the relationships between emotional dysregulation, hyper-mentalization, and cognitive and affective empathy in 252 adolescent patients, divided into BPD subjects and undiagnosed subjects, revealing that in both groups, emotional dysregulation was related to increased affective empathy. Hyper-mentalization, on the other hand, was correlated with reduced cognitive empathy in patients with BPD, while hyper-mentalization was not correlated with any kind of empathy in patients without BPD (Kalpakci et al., 2016). As regards, difficulties in mentalization or the ability to precisely infer the mental states of others, a dysfunctional mechanism of these abilities was hypothesized at the basis of borderline personality disorder (Fonagy et al., 1991; Sharp and Fonagy, 2008). Moreover, with the aim of examining the mediating role of the regulation of emotions in the relationship between ToM and borderline traits in adolescents, a study found a trend that associates an overall reduced ToM capacity with an increase in borderline traits and a consistent correlation between these and difficulties in emotional regulation; not an absence of mentalization capacity but an over-mentalization (Sharp et al., 2011). This hyper-mentalization would manifest itself as an excessive interpretation of the mental state of others. The tendency to make overly complex inferences about social signals that have been found to be erroneous has also been shown. These subjects would tend to over-interpret social signals by overestimating them. These results suggest that the difficulties of emotional dysregulation, at least in part, mediate the association between hyper-mentalization and BPD.

DISCUSSION

It should be clarified that there are often overlaps in literature between the different cognitive and affective components of empathy and mentalization, and there is therefore no unanimous consensus on this issue. Moreover, some authors understand the theory of mind in terms of the "presence or absence" of this ability with the consequent effective functioning or not of the psychic activities linked to the attribution of mental states; others consider it as part of a wider mental activity, i.e., metacognition, which would include, in addition to ToM, more sophisticated mentalization abilities. It seems, therefore, that common characteristics of serious personality disorders can be traced back to alterations in metathought and emotional regulation, both of which in turn are expressions of metacognitive functions. Each particular disorder is characterized by a specific profile of impairment (more or less serious) of some subfunctions of metacognition. In particular, the borderline disorder as opposed to autism would be characterized by a difficulty to distinguish between representation and reality, to modulate one's mental states functionally and adaptively, and to integrate the various elements of mental activity (sensations, emotions, thoughts, etc.) into continuous and coherent narrations of oneself, others, and the world.

The studies presented have uniformly shown that the lack of empathy and theory of mind is an overlapping aspect in BPD and ASD but there is still little evidence regarding the differences between the two clinical domains with respect to the affective and cognitive components of empathy itself. Furthermore, in the studies, analyzed measurements are carried out with different instruments and tests, which means that the results of one study cannot be fully compared with those of another.

It would be useful, also with regard to the development of possible integrated therapies, to investigate the link between BPD and ASD in terms of lack of empathy, ToM, and mentalization using shared protocols for diagnosis that can allow homogeneous measurements that do not leave room for the interpretation of individual scores.

Finally, it would be interesting to investigate possible overlapping between BPD and ASD with respect to executive functions and impulse control, an aspect not yet particularly stressed in the scientific literature.

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NV: developed the topic of the work and carried out the final linguistic review. CD'A: contribution for the ASD topic. GT: references research. All authors contributed to the article and approved the submitted version.

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BRIEF RESEARCH REPORT
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Facial and Vocal Expressions During Clinical Interviews Suggest an Emotional Modulation Paradox in Borderline Personality Disorder: An Explorative Study

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Videotape recordings obtained during an initial and conventional psychiatric interview were used to assess possible emotional differences in facial expressions and acoustic parameters of the voice between Borderline Personality Disorder (BPD) female patients and matched controls. The incidence of seven basic emotion expressions, emotional valence, heart rate, and vocal frequency (*f0*), and intensity (dB) of the discourse adjectives and interjections were determined through the application of computational software to the visual (FaceReader) and sound (PRAAT) tracks of the videotape recordings. The extensive data obtained were analyzed by three statistical strategies: linear multilevel modeling, correlation matrices, and exploratory network analysis. In comparison with healthy controls, BPD patients express a third less *sadness* and show a higher number of positive correlations (14 vs. 8) and a cluster of related nodes among the prosodic parameters and the facial expressions of *anger*, *disgust*, and *contempt*. In contrast, control subjects showed negative or null correlations between such facial expressions and prosodic parameters. It seems feasible that BPD patients restrain the facial expression of specific emotions in an attempt to achieve social acceptance. Moreover, the confluence of prosodic and facial expressions of negative emotions reflects a sympathetic activation which is opposed to the social engagement system. Such BPD imbalance reflects an emotional alteration and a dysfunctional behavioral strategy that may constitute a useful biobehavioral indicator of the severity and clinical course of the disorder. This face/voice/heart rate emotional expression assessment (EMEX) may be used in the search for reliable biobehavioral correlates of other psychopathological conditions.

Keywords: prosody, emotional conflict, speech characteristics, FaceReader, PRAAT, social engagement system, exploratory network analysis, multilevel models

INTRODUCTION

Expressing, detecting, and evaluating emotions are crucial social and cognitive skills for behavioral adaptation. Human emotions are mainly expressed in facial, postural, verbal, or vocal behaviors and usually involve physiological correlates, such as heart rate. These expressions manifest a variety of subjective states and constitute objective behaviors that can be recorded and closely scrutinized. There is extensive evidence of the salient role that facial expressions, verbal and vocal parameters play in the communication of basic emotions among human beings (1). In face-to-face human encounters, the simultaneous emission of facial and vocal expressions expands the information that results in the recognition and attribution of emotional states that played an important role in human evolution.

Dysfunctions in the recognition of facial expressions have been observed in several major psychiatric disorders but there is scarce information concerning the emission of emotional expressions. It is feasible that specific deviations of facial and vocal expressions of emotion may be of diagnostic value in psychiatry. The combined face/voice communication channel constitutes a parameter with reliable psychometric properties allowing for the discrimination among depressive disorders (2), and atypical emotional expressions have been reported in schizophrenia, depression, and autism spectrum disorders (3). In the same review, it was stressed that most of the currently available methods to assess emotional expression have not been validated in clinical settings, a desirable condition to ascertain their diagnostic value.

Customary office settings facilitate the recording of facial and vocal behaviors that allow for multiple and punctual analyses of emotional reactions. The availability of computerized discrimination and quantification systems of facial and vocal expressions of emotion (4) constitutes an opportunity to assess such expressions in psychiatric patients during clinical interviews. In eating disorders and schizophrenia, a software called multiple-fusion-layer based ensemble classifier of stacked autoencoder (MESAE) that analyzes the range of emotional expression according to facial arousal has been applied (5). The facial and vocal expression of Borderline Personality Disorder (BPD) patients during a psychiatric clinical interview has not been studied and is likely to provide valuable diagnostic information.

BPD diagnosis requires the presence of five of the following criteria: (1) Fear of abandonment, (2) Unstable and intensive relationships with rapid changes between idealization and derogation, (3) Identity disturbances, (4) Impulsivity and risk-taking behaviors, (5) Recurrent suicidal behavior, (6) Threat of committing suicide and self-injurious behaviors, (7) Emotional instability, (8) Feelings of emptiness, (9) Inappropriate anger, (10) Uncontrolled aggression, (11) Stress-dependent paranoid ideation or dissociative symptoms (6).

From an evolutionary and behavioral ecology perspective, BPD can be understood as a condition that emerges from the interaction of genetic vulnerabilities with experiences of early emotional adversity, unresponsiveness of attachment figures, trauma, and abuse. This confluence might hinder the person's expectation regarding future resource availability in terms of social interactions, such that individuals would tend to maximize short-term benefits from interpersonal relationships and undertake a "fast" Life History Strategy (LHS). Fast LHS has been characterized by heightened threat sensitivity, low tolerance of frustration, poor executive control, novelty-seeking, impulsivity, risk proneness, low parenting effort, unstable intimate relationships, high cortisol levels, reduced heart rate variability, and early sexual maturation (7, 8). An inadequate assessment and interpretation of perceived other's emotions may distort behavioral and vocal expressions and foster a deterioration of interpersonal relationships (9).

Emotional vocalizations are adaptive for social species; in humans, speech development provides multiple prosodic means to express emotions and convey affective connotations during face-to-face human communication (10). Adjectives and interjections constitute emotionally loaded vocal expressions (11), where adjectives provide effective verbal evaluations and interjections constitute brief and intense vocal expressions as it occurs in other animal vocal emissions.

The autonomic nervous system (ANS) regulates the emotional interpretation of environmental and internal stimuli, particularly those evoking fear and anger (12). ANS not only contributes to the hedonic valence of sensations and percepts, but the organization of the emotional expression involving physiological, motor, and social interactions, such as fight or flight response (sympathetic), fainting, "playing dead" (dorsal vagal), or affiliative behaviors (ventral vagal) (13).

Considering the reported emotional dysregulation in BPD patients (14), it seems justified to analyze possible differences in the facial expressions of the basic emotions, the emission and prosodic properties of adjectives and interjections, as well as autonomic correlates. Therefore, the present study aimed to compare the incidence of the seven basic emotion expressions, the emotional valence, arousal, heart rate, and the incidence and vocal parameters of adjectives and interjections between five BPD patients and matched controls. We hypothesized that BPD patients exert a subliminal control of their facial and vocal emotional expression where autonomic modulation plays an inferable role. The relatively small patient sample is justified in terms of the rigorous diagnostic and matched control criteria employed and the extensive and meticulous analyses of the behavioral and autonomic variables recorded by precise computational means.

MATERIALS AND METHODS

The present study was conducted in two stages. First, an audiovisual recording was obtained during an initial clinical interview of five BPD female patients and five female controls matched by age and educational level [age: $t_{(8)} = 0.3$, $p = 0.77$; education: $X^2 = 2.58$, $p = 0.98$]. Afterward, by the use of the FaceReader and PRAAT programs applied to the video and audio recordings, the incidence of the seven basic emotion expressions, the emotional valence, arousal, heart rate, and the incidence and vocal parameters of adjectives and interjections were analyzed.

Participants

Patients

Five female patients diagnosed with BPD by DSM-IV criteria were selected after their first admission to the Personality Disorder Clinic of the *INPRFM* in Mexico City. BPD was diagnosed by two board-certified psychiatrists when patients met DSM-IV criteria (15). Subjects were excluded if they presented a comorbid diagnosis of antisocial personality disorder, acute psychotic episode, acute manic episode, active eating disorder, substance abuse disorder (except for nicotine), neurodevelopmental disorder, and a depressive episode of moderate or high severity {>17} in accord with the Hamilton Rating Scale for Depression (16). Hamilton scores were: 9, 1, 1, 4, 4 and corresponding pharmacological treatments were as follows: Fluoxetine 60mg/day + Quetiapine 100mg/day, none, Escitalopram 30mg/day, Fluoxetine 20mg/day, Fluoxetine 20mg/day + Topiramate 50mg/day.

All of the patients have a history of traumatic experiences, three of sexual abuse childhood, one has a comorbidity of Post Traumatic Stress Disorder (PTSD), another of complex trauma and physical violence.

All patients completed the Clinical Interview for DSM-IV Axis II Personality Disorders Self-Report Screening Questionnaire (SCID-II/PQ) to explore all personality disorders, including BPD (17). As recommended, we used a cutoff point of >5 to establish the BPD diagnosis. Two subjects met 15 criteria, another two 11 criteria, and one, 13. The overall personality disorder diagnosis agreement reported with the use of the SCID-II/PQ vs. the SCID II interview (K = 0.75) is adequate (18). The average age of participants was 28.8 years (S.D. = 6.4, range 22–39). The patients had High School (4 subjects) or Bachelor's degrees (1 subject). The scoring on BEST measures was the following: 33, 46, 55, 53, and 42. According to the number of BPD criteria met in the SCID-II/PQ and the scores in the BEST questionnaire it can be said that the group of patients was relatively homogeneous. The interviews lasted 30 min, but only an average of 11.42 min was recorded for analyses. Neither the greetings nor the farewells were recorded for both groups.

Controls

Five women with an average age of 29.6 years (S.D. = 5.18, range 24–38) were selected to participate in the study after an invitation on the Internet was issued and answered. The control group had completed a Bachelor's to a Master's degree. The clinical instrument SCID-II/PQ was applied following a two-tiered procedure. First, the respondents completed the digitized questionnaire; the five women in the group who did not disclose any disorder on Axis II were subjected to an individual face-to-face interview similar to the therapeutic intervention received by the patients. The average length of the interview for the control group was 17.00 min.

Ethics

The study was conducted following the general principles stipulated in the Declaration of Helsinki. Even though it is usually difficult to obtain reliable recordings of clinical interviews because of confidentiality constraints, in this case, once the objectives and procedures of the investigation were explained, it was possible to achieve careful informed consent from legally proficient patients and controls concerning their anonymity and the value of the clinical research. The project was approved by the Ethics and Research Committees of *INPRFM*.

Procedure

The interviews were held in a 4 × 2 meter, well-lit, and quiet consulting room of the *INPRFM* Personality Disorders Clinic. Both patient and control subjects had a session conducted by a single male clinician (EMT) certified in the Acceptance and Commitment Therapy (ACT) technique of Hayes et al. (19). The psychological intervention was designed to meet the requirements of the ACT to provide a homogeneous and comfortable environment in which the interview and recordings took place. At the beginning of each session, participants were guided in a 5-min mindfulness exercise, and subsequently, the interview was directed to detect recent and present cognitive distortions, unpleasant emotions, and/or recent problematic behaviors. Once a salient problem was detected, the interview was directed to explore the symptoms and difficulties in-depth. The subject's facial and vocal expressions were recorded with a Canon XA10-HD camera placed 1.5 meters in front of each patient focusing on the face.

Facial Expression of Emotion

The FaceReader 7 software was used to obtain and quantify facial expressions of emotion every 0.04 hundredths of a second (time-lapse frame) of the recording video. This software detects and classifies seven facial expressions of the basic emotions: happiness, sadness, anger, surprise, fear, disgust, contempt, plus a neutral expression (20). The software establishes the emotional valence as an index obtained by calculating the intensity of positive emotion (happiness or surprise) minus the negative emotion with the highest intensity (21). Arousal of 20 Action Units of the Facial Action Coding System (FACS) indicates whether the patient is active {+1} or not active {0}. Heart rate was acquired by photoplethysmography (face luminance depending on vasodilatation).

Audio

The audio signal was extracted from the video recordings and converted to WAV format (Waveform Audio File) with a sample rate of 44,000 Hz, 8-bit resolution, and monophonic signal. The acoustic parameters of the voice were analyzed from these audio recordings with the PRAAT computer program (22) as the fundamental frequency (*f0*) expressed in Hz, and loudness in decibels (dB). Sampling time was set at 0.01 hundredths of a second. The adjectives and interjections within the verbal discourse were defined according to the *Diccionario de la Real Academia Española*, and then searched and selected with the PRAAT program. The audio is played by the program, and when an adjective or an interjection was recognized and selected by one of the authors, the program delivers the *f0* and the dB values. Lastly, the duration of the interjections was synchronized with the FaceReader 7 timeline to obtain the emotional valence,

arousal, and heart rate together with the timeline data of the fundamental frequency and the decibels of the voice.

Statistical Analysis

Since the FaceReader software records a frame every 0.04 hundredth of a second, each subject has about ±17,000 of repeated measurements of facial expression. To evaluate the differences in emotional variables between BPD and control samples, linear multilevel models (or linear mixed-effects models) were performed to consider the correlated structure of the observations. Data is said to be correlated because repeated measurements of the same participant are expected to be more similar to each other than measurements among participants (23). Multilevel models were fitted for each emotion to estimate the differences between groups using what is called *fixed effects*, and at the same time, to estimate the individual variability and the correlated structure of the data we use random intercepts by subject (24). It is essential to mention that performing a two-sample *t*-test would lead to biased estimates of the differences between the groups so that only multilevel models could estimate the parameters in an unbiased way with acceptable rates of type I and type II errors (24, 25).

As an exploratory analysis, the correlation between emotional facial expressions and vocal indicators was calculated for each group using the Pearson method considering a statistical significance at the 0.05 level, and to visualize the associations between the variables in each group, with the correlations which absolute values were set above the 0.4 level, two exploratory networks were built using the force-directed layout algorithm implemented in the "ggraph" package of R (26).

The data were preprocessed and extracted using the Python language for scientific computing (27). Then, all models were programmed in R using the lme4 and lmerTest packages to test the hypotheses of whether the differences between the samples were different from zero (28). Finally, all *p*-values were adjusted using the False Discovery Rate (FDR) to reduce type I errors due to multiple dependent comparisons (29).

RESULTS

Facial Expression of Emotion

Table 1 shows the results of the FaceReader analysis of the 7 basic emotions in the BPD and the control groups. Even though there were differences between the two groups in surprise and disgust, the only significant disparity was found in the facial feature of sadness, where the patients expressed less than half the amount of this emotion compared to the control group (0.30 vs. 0.051, $p < 0.02$). The emotional valence showed a significant difference between the groups, tending to zero in the patients (−0.114 vs. −0.002 in a −1 to +1 range; **Table 1**). To justify this preliminary result, a power analysis using 1000 Monte Carlo simulations in the case of the emotion of sadness between the groups was made with our sample of 10 subjects. A power of 95.8% (IC 95% = 94.36, 96.96) was obtained which is well above the recommended 80% as acceptable. According to the power curve analysis (**Supplementary Material**), a seven subject sample would be enough to reach such a level in the design of further studies using the same or very similar temporal conditions.

Prosody

Concerning the expression of adjectives and interjections, a total of 177 adjectives were obtained from both groups, 108 (61%) uttered by the BPD group, and 69 (39%) by the controls, while the proportion of interjections was higher in the control group 126 (60%) than in patients 83 (40%). The proportion tests were highly significant for both adjectives ($X^2 = 16.32$, $p < 0.001$) and interjections ($X^2 = 12.88$, $p < 0.001$). No significant differences were found in the fundamental frequencies and decibels of adjectives and interjections of both groups (**Table 2**).

Correlation Matrix

Figure 1 shows the correlation matrices among the heart rate, arousal, valence, basic emotions, and acoustic parameters in controls (left) and BPD patients (right). Compared to the control group, patients show a higher number of correlations, especially positive ones (8 vs. 14), among the elements of prosody and facial expression of some negative emotions. Specifically, a positive correlation was observed in patients between facial expressions of disgust and anger, and the acoustical parameters of adjectives and interjections, both in decibels and in fundamental frequency. This correlation was not present in the control group. Additionally, some correlations are opposite in control's and patient's groups; particularly, the following pairs are negative in controls and positive in patients: heart rate and happiness, disgust and adjectives (*f0*-dB), anger and adjectives (dB), and anger and interjections (*f0*).

Network Results

The two exploratory networks built from the force-directed layout algorithm and implemented in the "ggraph" package of R are shown in **Figure 2**. Panel A on the left side depicts the network obtained for the control group. The group of nodes dominating the net in terms of the number of connections for each variable (dot size) and intensity of correlations among the variables (positive correlations in red and negative correlations in blue) includes the negative emotions of Anger, Sadness, Contempt, and Fear. Panel B on the right shows the network corresponding to the BPD patients. The set of nodes dominating the network in terms of the intense interconnections includes the vocal variables of intensity (dB) and frequency (*f0*) of interjections and adjectives together with facial expressions of the negative emotions of Anger, Disgust, and Contempt. The second set of nodes appears in the lower left of this network characterized by positive relations among Happy, Valence, and Heart Rate. The main difference between the two networks consists in the set of interconnections among acoustic and facial parameters of repulse emotions depicted in the patient's group which is absent in the controls, where the relation of acoustic and facial expressions is weak and does not include Contempt.

TABLE 1 | Facial expression of emotion frequency.

Variable	Groups				95% CI		Statistic	*P*-adjust
	Controls		BPD		Lower	Upper		
	Mean	SD	Mean	SD				
Neutral	0.586	0.197	0.652	0.203	−0.073	0.151	0.67	0.68
Happy	0.053	0.129	0.075	0.168	−0.004	0.075	1.72	0.34
Sad	0.13	0.228	0.051	0.103	−0.119	−0.04	−3.92	**0.02***
Angry	0.019	0.04	0.011	0.024	−0.016	0	−1.83	0.34
Surprised	0.106	0.18	0.067	0.136	−0.089	0.021	−1.19	0.49
Scared	0.034	0.062	0.026	0.055	−0.019	0.002	−1.64	0.34
Disgusted	0.012	0.028	0.006	0.015	−0.014	0.002	−1.39	0.49
Contempt	0.012	0.035	0.015	0.04	−0.006	0.009	0.44	0.78
Valence	−0.114	0.262	−0.002	0.214	0.066	0.187	4.05	**0.02***
Arousal	0.354	0.184	0.348	0.163	−0.06	0.068	0.12	0.91
Heart rate	68	8.759	70	9.332	−3.12	9.92	1.01	0.53

*$p < 0.05$.

TABLE 2 | Acoustic parameters of voice frequency.

Variable	Groups				95% CI		Statistic	*P*-adjust
	Controls		BPD		Lower	Upper		
	Mean	SD	Mean	SD				
Adjectives (*f0*)	177	67.3	197	73.6	−26.34	51.99	0.72	0.68
Interjections (*f0*)	172	66.5	177	90	−17.17	20.8	0.19	0.9
Adjectives (dB)	61.5	5.91	63.6	7.39	−2.75	8.66	1.12	0.49
Interjections (dB)	61.8	5.93	61.4	7.4	−4.71	2.68	−0.6	0.68

f0 = Fundamental frequency in Hertz.
dB = Intensity in decibels.

DISCUSSION

Even though there were only 10 subjects for the between-groups comparison it is possible to justify these preliminary results in terms of the extensive and meticulous recording and statistical procedures. During the interview, each subject was recorded by the FaceReader software every 0.04 s for an average period of 11.4 min resulting in ±17,000 data points. The advantage of such longitudinal measurements by subject is that it diminishes the variance produced by individual differences, resulting in more sensitive and uniform data, greater confidence of between-subject comparisons, and the detection of real effects with fewer and extensively analyzed subjects.

The emotionality of psychiatric patients is usually evaluated during clinical interviews based on the sensibility and expertise of a trained psychiatrist, sometimes aided by self-reports and other indirect measures of emotion. Quantitative indicators of emotion are of particular interest because of the relevance that affective alterations play in mental disease. The present study constitutes an attempt to detect objective and quantitative indicators of mental disorders that may constitute biomarkers of clinically characterized psychopathological conditions. This is the first time that facial and vocal expressions are measured and compared between BPD patients and matched controls using a computational software of audiovisual recordings obtained during a clinical psychiatric interview. It is also the first attempt to synchronize facial and vocal recordings obtained from the same source allowing the analysis of congruence between both expressions of emotion. Specifically, we attempted to find differences in the facial expressions of the basic emotions and the prosodic voice parameters of adjectives and interjections recorded in videotapes.

The main significant result of the facial behavior showed that patients express more than a third less sadness compared to controls. We consider two possible explanations for this preliminary result: patients may feel or express less sadness. It has been reported that patients with mood disorders attempt to muffle their emotions (30) and suppress their expression (31).

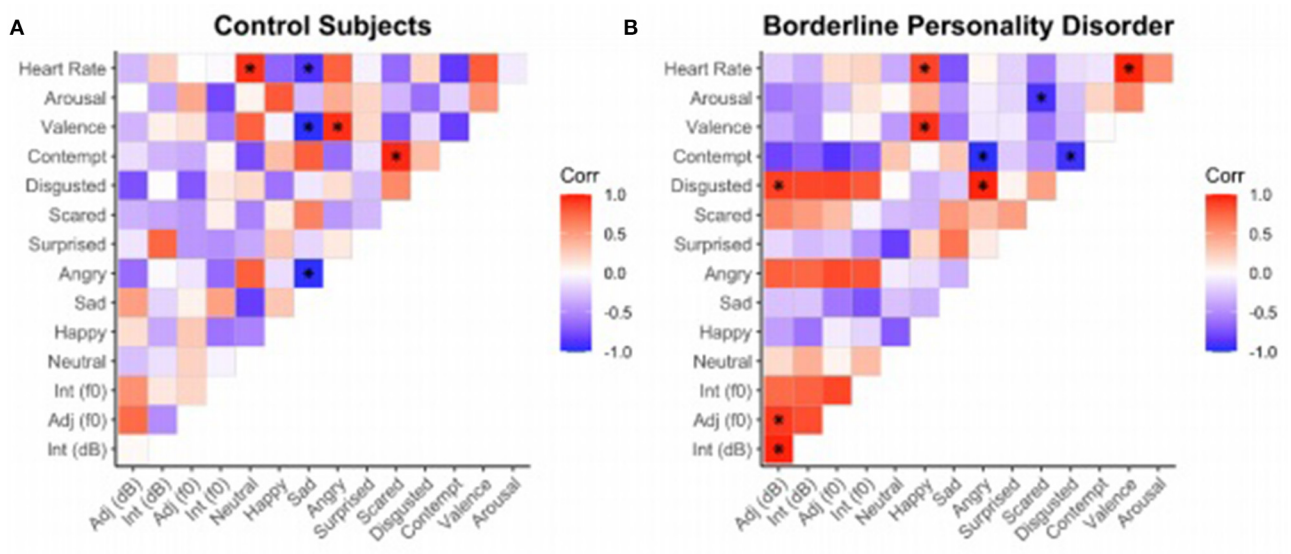

FIGURE 1 | Correlation matrices established among emotional variables (Neutral, Happy, Sad, Angry, Surprised, Disgusted, Valence, Arousal) and acoustic parameters (*f0, dB*) of controls **(A)** and patients **(B)**. The correlation index on each cell is displayed in a gradient of colors where red represents a positive correlation ($0 > r > 1$); blue, a negative one ($-1 < r < 0$); and white the absence of revelent correlation.

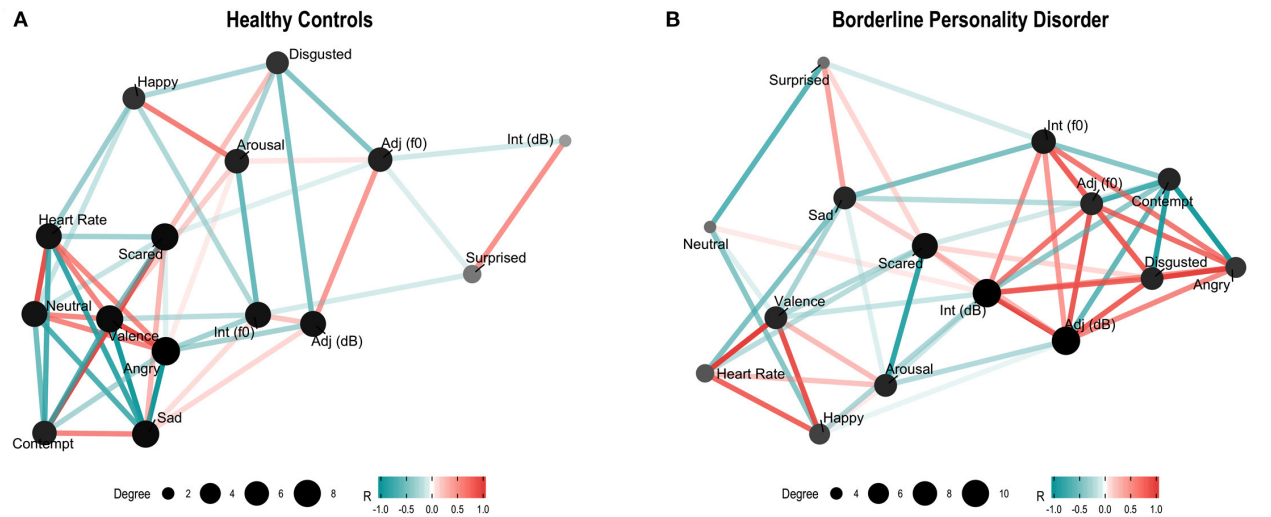

FIGURE 2 | Controls **(A)** and patients **(B)** *force-directed layout* networks among facial expressions, acoustic parameters (*f0–dB*), valence, heart rate, and arousal. The nodes represent recorded variables; their size and color intensity reflect the number of correlations: bigger and darker nodes represent a greater number of relations. Edges connecting pairs of nodes reflect the strength of their correlation. Color intensity (red for positive and blue for negative) reflects the correlation strength.

In states of emotional dysregulation, which can be observed in BPD patients, they undertake "functional strategies" to suppress or avoid their emotions, usually resulting in greater anxiety and dysfunction (32). In turn, the prolonged use of emotional regulation strategies in search of social acceptance leads to maladaptive behaviors (31) and altered interpretations of the perceived behaviors of others (33). Reduced emotion was reported in patients with anorexia nervosa (34); therefore, the reduced expression of sadness observed in our results favors this suppression hypothesis. On the other hand, our result of a neutral emotional valence in patients, compared to the control group which showed a tendency toward a negative valence, favors the possibility of an emotional disconnection among emotions, emotional labels, and expressions. This possibility is strengthened by previous results that report that BPD patients may exhibit diverse degrees of alexithymia (35, 36).

These BPD patients seem to fail in interpreting their own and other's emotions while being highly responsive to other's emotional expressions (14, 37). Moreover, it is likely that concealing sadness, displaying anger, disgust, and contempt may be the consequence of feeling threatened by the male interviewer, especially since all of the patients have a history of trauma and abuse. Inactivating the social engagement system in favor of a fight or flight mode seems congruent with some elements of the Fast Life History Strategy suggested for these patients (7, 8).

Even though the acoustic parameters of tone and volume of adjectives and interjections were similar between the two groups, the emission frequency was different, the number of adjectives was higher in patients while interjections were more common in the control subjects. Prior studies reported that subjects with BPD vocalize more adjectives with positive valence with the supposed purpose of favoring the acceptance and empathy of others (38–40).

If BPD patients constrain the exclamations manifesting direct emotions, then the lower expression of interjections could be explained in terms of the suppression hypothesis. It is also possible that in the context of an initial interview, the control volunteers express more interjections in response to the therapist's interventions (7, 41).

The positive correlation among the expressions of anger and disgust with the *f0* of adjectives and interjections, and between the expression of happiness and heart rate, may be related to the emotional hyperreactivity and ANS instability, particularly a high sympathetic tone, reported in BPD (42, 43). From an evolutionary perspective, an attachment over-reactivity correlated with an increased sympathetic tone has been suggested in BPD patients; such hyperactivation constitutes an adaptive intent that leads to the establishment of fast and intense social interactions, frequently burdened with negative emotions (7).

Thus, the intensification of discomfort-suggesting signals, such as facial expressions of anger and disgust, underlined with adjectives and interjections, function as poorly adaptive strategies to signal a need for help. Such an interactive scheme may come especially into play during an initial clinical interview where patients accentuate the solicitation of assistance. The negative correlation between the expression of disgust and prosodic variables may reflect the attempt to reduce the emphasis of this emotion during the clinical interaction, and thereby increase the possibilities of acceptance and support.

Since one of the main clinical traits in BPD patients is negative affectivity (44), we suggest that this feature may manifest in the positive interconnections observed between the prosodic voice features and negative facial gestures. Even though such facial/vocal outflow of affective information during a face-to-face interaction facilitates the recognition of the emotional state by the receptor or decoder (45), this multichannel emission of negative and rejecting emotions in BPD patients communicates an internal activation of the fight/flight response and an interpersonal distancing endeavor. Moreover, these signals reflect an activation of the sympathetic nervous system associated with increased arousal and motility which is opposite to the social engagement system involving the ventral parasympathetic branch (42).

Our exploratory results suggest that even though in the context of a clinical interview BPD patients seek empathy, rapport, and assistance, their diminished expression of sadness, their confluence of prosodic and facial expressions of negative emotions, and their sympathetic signals communicate a very different or even opposite motivational state. Such paradox places the patient in an interactional situation that may contribute to interpersonal conflict, which is another prominent BPD feature. As it has been suggested in studies of synchrony in BPD patients, "their alertness in social situations may hinder them to fully engage non-verbally" (46). Our initial results may add to the understanding of alterations in the quality of relationships in this patients. These findings can shed light on a possible non-verbal, emotional, and behavioral maladaptive strategy to be noticed by the clinician and monitored not only as a marker of the personality disorder but also if modified in the direction of the activation of the social engagement system, as a clinical indicator of treatment outcome.

Even though the present study has a limited sample size due to the strict enrollment criteria employed, the precise and laborious measurements of facial and vocal signals make these methods and findings potentially relevant to the understanding, detection, and evaluation of BPD and other mental disorders. This face/voice/heart rate emotional expression assessment (EMEX) may be used in the search for reliable biobehavioral correlates of other psychopathological conditions. Future studies should be undertaken to improve the confidence level and reduce the variability of the results. Similar studies in larger and culturally varied populations will be necessary to confirm if the present data constitute objective and reliable BPD indicators. Considering the controversy about the universality of facial and prosodic expression of emotion it would be important to conduct further research on this topic in other social cultural and linguistic scenarios.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The project was approved by the Ethics and Research Committee of Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JV-V and JM-D: concept, design. EM-T: clinician interview. EM-T, JV-V, and SJ: data acquisition. JV-V and SJ: statistical analysis. JV-V, J-LD, SJ, IA, AR-D, AL-B, and JM-D: figures.

JV-V, J-LD, SJ, IA, AR-D, AL-B, and JM-D: manuscript writing. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2021.628397/full#supplementary-material

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Patterns of Contagious Yawning and Itching Differ Amongst Adults With Autistic Traits vs. Psychopathic Traits

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Both individuals with diagnosed with Autism Spectrum Disorder (ASD) and individuals high in psychopathic traits show reduced susceptibility to *contagious yawning;* that is, yawning after seeing or hearing another person yawn. Yet it is unclear whether the same underlying processes (e.g., reduced eye gaze) are responsible for the relationship between reduced contagion and these very different types of clinical traits. College Students (n = 97) watched videos of individuals yawning or scratching (a form of contagion not reliant on eye gaze for transmission) while their eye movements were tracked. They completed the Interpersonal Reactivity Index (IRI), the Autism-Spectrum Quotient (AQ), the Psychopathy Personality Inventory-Revised (PPI-R), and the Adolescent and Adult Sensory Processing Disorder Checklist. Both psychopathic traits and autistic traits showed an inverse relationship to contagious yawning, consistent with previous research. However, the relationship between autistic (but not psychopathic) traits and contagious yawning was moderated by eye gaze. Furthermore, participants high in autistic traits showed typical levels of contagious itching whereas adults high in psychopathic traits showed diminished itch contagion. Finally, only psychopathic traits were associated with lower overall levels of empathy. The findings imply that the underlying processes contributing to the disruptions in contagious yawning amongst individuals high in autistic vs. psychopathic traits are distinct. In contrast to adults high in psychopathic traits, diminished contagion may appear amongst people with high levels of autistic traits secondary to diminished attention to the faces of others, and in the absence of a background deficit in emotional empathy.

Keywords: contagion, autism, psychopathy, empathy, yawn

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Both Autism Spectrum Disorder (ASD) and psychopathy have been described as empathy disorders (e.g., Platek et al., 2003; Schürmann et al., 2005), and previous research has shown that both individuals with ASD and individuals with high levels of psychopathic traits show diminished eye contact early in life (Robins et al., 2001; Dadds et al., 2014) as well as diminished susceptibility to contagious yawning (Helt et al., 2010; Rundle et al., 2015). At the same time, the clinical presentation of these two disorders is quite distinct, with individuals with ASD being thought to display deficits in cognitive empathy (imagining what someone else might be feeling based on

knowing the facts of their situation) and individuals with psychopathy thought to display deficits in emotional empathy (internalizing a small part of the emotions of a person right in front of you, such as laughing more during a movie because the person next to you is laughing, or tearing up during a movie as you watch one of the character's tear up) (Jones et al., 2010). The ability to resonate with the inner states of those around you involves a number of separable processes that could potentially go awry in distinct ways (Frith, 2012). Contagion is a primitive form of empathy (Hatfield et al., 2009) that may lay a foundation for more complex forms of empathy (Prochazkova and Kret, 2017). Elucidating the mechanisms by which it deviates from typical development in these two clinical populations may, ultimately, inform early intervention theory and practice.

AUTISM AND PSYCHOPATHY: THE "EMPATHY DISORDERS"

ASD and psychopathy have both been described as empathy disorders. Hoffman (2000) defines empathy as "any process where the attended perception of the object's state generates a state in the subject that is more applicable to the object's state or situation than to the subject's own prior state or situation." Under such a broad definition of empathy, autism, and psychopathy do indeed both appear to be empathy disorders. Global empathy deficits have been reported in both groups (Baron-Cohen and Wheelwright, 2004; Ali et al., 2009; Dadds et al., 2009). Gillberg (1992) proposed the term "disorders of empathy" be used as a blanket term for all forms of autism because of the core feature of difficulty in reciprocal social interaction. Psychopathy, as identified in adults, has sometimes actually been defined as a lack of empathy (Frick et al., 1994). Both individuals with psychopathy and ASD share certain types of functional deficits such as difficulty recognizing and processing the emotional expressions of others (Hall et al., 2007; Clark et al., 2008), and neural activation patterns in both groups reveal reduced embodiment of the emotions of the target (Eigsti, 2013; Chen et al., 2017).

At the same time, the specific nature of the empathy deficits across these two groups differs sharply. Psychopathy is characterized by traits such as "cold-heartedness" (Hare, 1991; Blair et al., 2004; Weber et al., 2008; Frick and Viding, 2009). In contrast, Kanner's (1944) initial description of children with autism referred to "extreme…aloneness." In other words, individuals with ASD tend to be described as "in their own world" as opposed to individuals with psychopathic traits who are more often described as tuned into the world around them but unfeeling toward those in it. The overarching construct of empathy can be and has been meaningfully divided into *cognitive* and *emotional* empathy (Nummenmaa et al., 2008; Shamay-Tsoory et al., 2009; Smith, 2010) and individuals with ASD and individuals with psychopathy show distinct patterns of strengths and deficits across these subtypes of empathy.

Cognitive empathy is characterized by the ability to take the perspective of another based on context (e.g., Shamay-Tsoory et al., 2009). A large body of research shows that individuals with Autism Spectrum Disorder (ASD) tend to struggle with cognitive empathy (see Andreou and Skrimpa, 2020 for a review); however, the regarding deficits in cognitive empathy amongst individuals with psychopathic traits are less consistent. Research has shown that individuals with ASD are less able to take the perspective of others; in other words, to understand the beliefs (Charman and Baron-Cohen, 1992) goals (Zalla et al., 2006), actions (Vivanti et al., 2011), and mental states (Happe, 1994) of others, and to understand how context affects emotions (Frith and Happé, 1994; Frith and Frith, 2006; Jones et al., 2010; Gaigg, 2012; Schwenck et al., 2012). In contrast, parents do not report deficits in cognitive empathy amongst children with callous and unemotional traits (the traits in childhood that often serve as a precursor to adult traits of psychopathy) (Pasalich et al., 2012), and multiple studies have shown intact cognitive empathy (and perspective-taking) in both children or adults with psychopathic traits (Blair, 1996; Richell et al., 2003; Dolan and Fullam, 2004; Anastassiou-Hadjicharalambous and Warden, 2008; Jones et al., 2010; Schwenck et al., 2012), with one study even suggesting heightened cognitive empathy in this population (Hansen et al., 2008).

Emotional empathy is characterized as an instinctive, or automatic, physical embodiment of someone else's emotions. At a broad level, both individuals with psychopathic traits and individuals with ASD tend to demonstrate diminished emotional empathy. Specifically, both individuals with high levels of psychopathic traits and individuals with ASD have been shown to display reduced physiological arousal to emotional stimuli (Aniskiewicz, 1979; Hare et al., 1991; Patrick et al., 1993; Blair, 1999; Jones et al., 2010; Marsh et al., 2011; de Wied et al., 2012), and reduced emotional contagion (Helt et al., 2010; Rundle et al., 2015; O'Nions et al., 2017).

Critically, each group also appears to show some islands of heightened response to the emotions of those around them, but these areas differ between groups. Individuals with high levels of psychopathy show enhanced cortical excitability when viewing others in pain, but indifference to other's distress. In contrast, individuals with ASD have typical spontaneous sensorimotor responses when viewing others in pain (Fan et al., 2014; Hadjikhani et al., 2014) and show appropriate physiological arousal to others' distress (Sigman et al., 1992; Blair, 1999). Among individuals with milder symptoms of ASD, facial EMG activity, evidence of facial mimicry, and emotional contagion, is heightened compared with controls in response to happy and fearful faces (Magnée et al., 2007). In contrast, individuals high in psychopathic traits tend to show reduced autonomic reactivity to the fear of others (Birbaumer et al., 2005; Marsh and Cardinale, 2012).

Contagion and Empathy

Certain actions, such as yawning and scratching are "*contagious*," meaning that they frequently result in automatic mimicry and thus propagate through a group (Hatfield et al., 1994). For example, seeing (Provine and Hamernik, 1986; Helt et al., 2019; Cordoni et al., 2021) or hearing a yawn (Massen et al., 2015; Helt et al., 2019) elicits yawning in observers ∼30–60% of the time. Similarly, seeing others scratching elicits contagious itch

in observers ∼40–80% of the time. The behaviors that are most likely to be contagious are those that signify the *inner states* of others (Hatfield et al., 1994). Thus, contagion may reflect the *emotional* component of empathy in that it results in the observer being brought closer to the inner state of the target without necessarily evoking the *cognitive* component of empathy (e.g., newborns presumably are unable to identify that another baby is the source of the emotion when crying contagiously, and certainly cannot understand why).

Several studies have reported non-significant links between susceptibility to yawn contagion and scores on various empathy measures (Haker and Rössler, 2009; Bartholomew and Cirulli, 2014; Gottfried et al., 2015; see Massen and Gallup, 2017 for a review). However, other studies have suggested an association between contagious yawning and some facet of empathy (Platek et al., 2003; Arnott et al., 2009; Rundle et al., 2015). For example, susceptibility to contagious yawning is positively related to performance on cognitive empathy measures, such as Theory of mind tasks, and negatively related to schizotypal traits (Platek et al., 2003). In addition, contagious yawning tends to be greatest in response to kin, then friends, then acquaintances, and lastly strangers (Norscia and Palagi, 2011; Norscia et al., 2020)—a pattern consistent with other empathic behaviors (Preston and de-Waal, 2002, although Massen et al., 2015, reported that participants were no more likely to yawn contagiously to a member of their political "in" vs. "out" group). Furthermore, contagious yawning is not present in infants or toddlers (Helt et al., 2010) but rather develops during the preschool years (Cordoni et al., 2021) along the same timeline as other empathic abilities (Perner and Lang, 1999). For the purposes of the current study, the most important point may be that both individuals who are diagnosed with clinical conditions affecting empathy (e.g., schizophrenia) and individuals who merely show traits of clinical conditions affecting empathy (callous and unemotional traits, schizotypal traits) show reduced *spontaneous* susceptibility to contagious yawning (Platek et al., 2003; Haker and Rössler, 2009; Rundle et al., 2015) as well as other forms of contagion (e.g., Haker and Rössler, 2009; O'Nions et al., 2017).

Contagion in Psychopathy and ASD

Participants with a clinical diagnosis of ASD are *less* susceptible than age-matched, typically developing peers to the contagious yawns of strangers when they are shown video recordings (Senju et al., 2007; Helt et al., 2019), played audio recordings (Giganti and Esposito Ziello, 2009), or during live interactions (Helt et al., 2010) of other people yawning. However, yawning contagion appears spared when stimuli are familiar loved ones (Helt et al., 2019), and when participants are explicitly cued to look at the eyes of the target (Senju et al., 2009; Usui et al., 2013; Helt et al., 2019). Indeed, Massen and Gallup (2017) propose that contagious yawning is more linked to visual attention than to empathy. In addition, children with ASD have been shown to be *more* susceptible to itch contagion, which is a form of contagion not transmitted *via* the eyes (Helt et al., 2020). Scambler et al. (2007) reported that when children with ASD paid attention to the emotional stimulus, they were just as likely to demonstrate an empathetic response. In other words, the extant literature is consistent with the hypothesis that individuals with ASD do not have inherent reduced susceptibility to contagion provided they are attending to the stimuli. In cases in which an individual with ASD attends to and correctly classifies the other's emotional state, emotional empathy should be intact.

In contrast, the limited research on this topic seems to indicate even in cases in which the target's emotional state has been correctly classified, the individual with psychopathic traits is still less likely to experience emotional contagion (Luckhurst et al., 2017) or to generate an empathic response (see Waller et al., 2020 for a review). Indeed, this lack of emotional empathy alongside intact cognitive empathy is proposed to enable those with extremely high levels of psychopathic traits to manipulate others and to account for a disproportionate number of crimes (Blair, 2005).

Eye Gaze in Psychopathy and ASD

Although their ultimate clinical presentation is distinct, both researchers in the field of ASD (Dawson et al., 2004) and those in field of callous and unemotional traits (Dadds et al., 2008, 2012) have argued that an early failure in social attention may lead to cascading errors in the development of empathy. Eye contact between target and observer increases arousal, releases oxytocin, activates neural networks associated with social thinking (Becchio et al., 2007) and appears to be a crucial component in the process of empathic development. Eye gaze deficits appearing in childhood characterize the developmental trajectory of both ASD and psychopathic traits (Dadds et al., 2006; Jones and Klin, 2013).

Eye Gaze in Psychopathy

Children with callous and unemotional traits are reported to have displayed reduced eye contact with their caregiver during infancy (Dadds et al., 2011) and to display reduced eye gaze to target in experimental paradigms (Dadds et al., 2006). A hallmark characteristic of individuals with psychopathic traits is an impairment in the ability to recognize fear stimuli (Blair et al., 2004). However, when children with callous–unemotional traits are explicitly asked to attend to the eyes of fearful faces, they show normal levels of fear recognition (Dadds et al., 2008). Similarly, adults with psychopathic disorder often fail to show startle potentiation (e.g., Benning et al., 2005), though when their attention is explicitly directed to fear-relevant information, they show normalized fear-potentiated startle responses (Newman et al., 2010). Taken together, these studies suggest the possibility that some of the deficits in emotion empathy observed in individuals with psychopathic traits may be secondary to eye gaze avoidance.

Eye Gaze in ASD

Atypical eye contact is one of the first (Robins et al., 2001) and most significant symptoms of autism, and the range of contexts in which eye gaze is normal amongst individuals with ASD tends to be limited compared to neurotypical peers. For example, children with ASD have been shown to have reduced activation of the fusiform face area when viewing the faces of strangers (Schultz et al., 2000), but not when viewing the faces of their parents

(Pierce et al., 2004) or when explicitly instructed to attend to the eye region of the target (Hadjikhani et al., 2004). Similarly, a small number of studies have shown that individuals with ASD demonstrate typical contagious yawning either when explicitly asked to attend to the eyes of the target (Senju et al., 2009; Usui et al., 2013; Helt et al., 2019) or when the target stimuli consist of their parents (Helt and Fein, 2016; Helt et al., 2019).

Current Study

Across both groups, observed empathy deficits appear to be largely associated with a failure to direct attention to stimuli that normally elicit emotional response. At the same time, accounts abound of individuals with ASD showing empathic behaviors when they are attending and understand the context, which is not the case for individuals with callous and unemotional, or psychopathic, traits. It is unclear whether these two clinical groups begin with similar starting states (diminished eye gaze resulting in a failure of further social learning and experience) and branch off from one another in terms of trajectory after the development of contagion, or whether, even in the acquisition of early forms of empathy such as contagion, the underlying mechanisms at play are already quite distinct.

The current study explored the extent to which susceptibility to contagious yawning may be differentially moderated by eye contact in individuals with high and low levels of ASD and psychopathic traits in a non-clinical population. In order to do this, we used eye tracking to measure the eye gaze to the eyes of the stimuli targets for the contagious yawning trials and employed a form of contagion not reliant on eye gaze (itching) as a comparison condition. We hypothesized that the mechanisms underlying reduced contagion differ between these groups, with reduced contagion being secondary to reduced social attention in the high ASD traits group only (reflecting "aloneness"—social signals are often missed, but when they are not, contagion functions typically) and independent of eye gaze in the psychopathy trait group (reflecting "aloofness"—even when social signals are processed, contagion malfunctions). We further hypothesized that self-reported autistic traits would be negatively correlated with self-reported cognitive empathy, and that self-reported psychopathic traits would be negatively correlated with self-reported emotional empathy.

METHODS

Participants

Participants were 100 Trinity College students (50 female, 47 male), ages 18–23, recruited through psychology and neuroscience courses. The sole exclusion criteria was corrected-to-normal vision and no eyeglasses for easier calibration to the eye tracker; as such it is possible that some participants may have met clinical criteria for ASD or Antisocial Personality Disorder or other clinical conditions. Three participants were excluded due to loss of eye tracking data or inadequate visual attention, resulting in a final sample of 97. See **Table 1** for participant data.

TABLE 1 | Participant characterization variables.

Chronological age (years)	21.48 (1.93); 18.75–24.58
AQ scores	16.08 (7.01); 4–34
PPI-R scores	49.08 (12.54); 27–88
IRI scores	67.5 (15.3); 24–96
Percentage of time looking at eyes across conditions	13.5 (8.8) 1.7–46.8

Measures

The Autism-Spectrum Quotient (Baron-Cohen et al., 2001). The AQ is a 50 item, forced choice format questionnaire used to quantify Autism Spectrum Disorder traits is adolescents and adults of at least average intelligence. In the current study, the Cronbach alpha coefficient was 0.89.

The Psychopathic Personality Inventory-Revised (Lilienfeld and Widows, 2005). The PPIR is a self-report assessment of psychopathic traits in non-criminal populations. In the current study, the Cronbach alpha coefficient was 0.81.

Interpersonal Reactivity Index (Davis, 1980). The IRI is a multidimensional, self-report measure of empathy comprised of 28-items answered on a 5-point Likert scale ranging from "Does not describe me well" to "Describes me very well" with half of the items reverse scored. The IRI comprises four subscales: Perspective Taking (the tendency to spontaneously adopt the psychological point of view of others, for example, "I try to look at everybody's side of a disagreement before I make a decision"), Fantasy (respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays, for example, "After seeing a play or movie, I have felt as though I were one of the characters"), Empathetic Concern ("other-oriented" feelings of sympathy and concern for unfortunate others, for example, "I often have tender, concerned feelings for people less fortunate than me"), and Personal Distress ("self-oriented" feelings of personal anxiety and unease in tense interpersonal settings, for example, "Being in a tense emotional situation scares me"). In the current study, the Cronbach alpha coefficient was 0.78.

Apparatus

Participants' visual gaze fixation patterns were captured using an Applied Science Laboratories (ASL) Desktop Eye Tracker. Before participants began viewing the yawn and itch stimuli they were calibrated to the eye tracker. One computer was used to present stimuli videos. The eye tracking unit was positioned at the base of the stimulus computer monitor to collect and analyze pupil/corneal reflection points of the participant (the center of the participant's pupil and a reflection from the surface of the cornea) at a sampling rate of 120 Hz per second, and was connected to the computer presenting the stimuli. "Areas of Interest" were specified around the eye region of the stimuli as well as around the mouth region (see **Figure 1**) and percentage

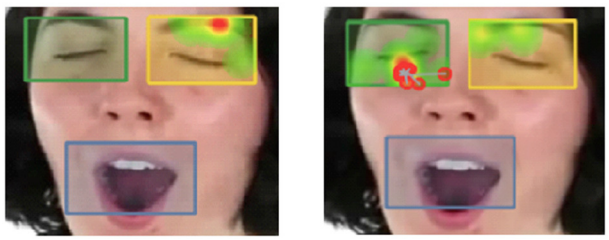

FIGURE 1 | Sample differences of visual fixation points for **(A)** individuals high in autistic traits, and **(B)** individuals high in psychopathic traits. Gradients of most attended areas on the heat maps are shown from red to yellow to green. Areas of interest were drawn around the eyes and mouth. Percentage of time that participant eye gaze was fixated within the eye region boxes shown below was positively correlated with tendency to yawn contagiously.

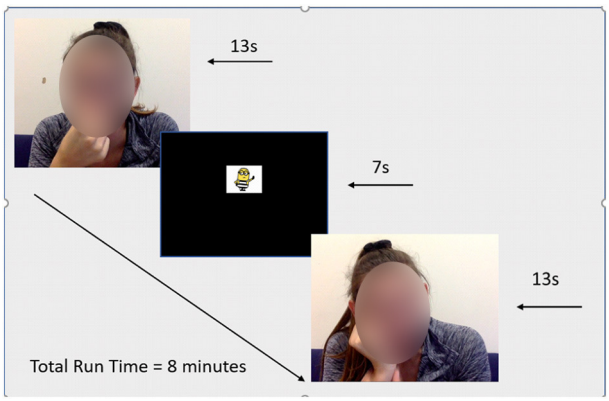

FIGURE 2 | Sample stimuli.

of total time spent on each AOI by stimulus condition (yawn or itch) was used for analysis. Fixation durations for each AOI by condition were summed across all scenes within each condition, to create total fixation duration variables for each AOI type. An AOI that covered the entire screen for each trial was also created, in order to measure overall visual attention or any loss of eye tracking data. This was not used in analysis but was used to exclude two participants. Adjacent fixations were merged, with the maximum time between merged fixations set to 75 ms and the maximum angle between merged fixations set to 0.5°. Merging fixations close in time and proximity prevents longer fixations from being separated into shorter fixations because of data loss or noise. Fixations shorter than 30 ms that did not meet criteria for merging were discarded.

Stimuli

The stimuli were created by having 11 adults wear wireless earbuds while simultaneously watching youtube clips of others yawning and scratching and looking into our video camera. Thus, the videos of yawns and scratches (both under weak voluntary control; see Provine, 2005) were themselves contagious yawns and itches/scratches. In half of the stimulus clips, the adults are looking at the camera, and in half their eyes are averted. Itches and yawns judged to be genuine by the "actor" and the experimenter were used in a pilot study with undergraduates to ensure their contagious properties, and any clips that did not produce contagious responses in the pilot group were discarded. The original yawning and itching videos from youtube used to create the remainder of the stimuli bank were also included ($n = 2$), for a final set of 24 clips; 12 yawning, 12 itching. Each of the 24 video clips contained 1 yawn (M = 13 s each) or 1 bout of scratching (M = 13 s each) with fixation cartoons shown at eye level between contagious stimuli clips within each block, lasting ∼7 s, for a total of 8 min of viewing time (see **Figure 2**).

Procedure

The clips were presented by computer, and participants' contagious yawn or itch responses were recorded *via* a video camera mounted to the top of the 23.6-inch monitor in order to capture the participants' faces and upper bodies, as they sat 18 inches from the monitor and speakers. Audio level was preset, but participants were given the option to adjust the volume during the video introduction. Participants were told that they would be viewing a series of faces making different expressions. The order of the video clips was randomized for each participant. After viewing the videos, participants completed the paper and pencil measures. Participants were tested between 10 a.m. and 3 p.m. Each participant was consented prior to starting the experiment and debriefed afterwards. This study was approved by Trinity College's Institutional Review Board.

Data Coding and Analysis

Each video was independently coded by two different raters who were naïve to participant condition (i.e., whether the participant they were coding was watching yawns or itches as target behaviors were being coded). Coding criteria for full yawn included the following physical manifestations: open mouth, narrow eyes, and indrawn breath (Provine, 2005). Inter-rater reliability was 100% for full yawns (two partially concealed yawns were excluded from data analysis). Coding criteria for itch required observation of the participants' hand moving to a body location and scratching (increased "nose twitching" was observed during the itch trials—it was not coded but we wonder if there may be merit in exploring this in future studies). Yawning and scratching behaviors were coded both during *congruent* conditions (i.e., yawning coded during presentation of yawning stimuli and itching coded during the presentation of itching stimuli) and during *incongruent* conditions (e.g., participant yawning coded during presentation of itching stimuli and participant scratching coded during the presentation of yawning stimuli). Overall, there was a low rate of scratching during the yawn videos ($n = 4$ itches in total across all 97 participants vs. $n = 43$ scratches across all participants during itch videos) and a low rate of yawning during the scratching videos ($n = 8$ yawns during non-yawn stimuli vs. $n = 51$ in yawn condition), indicating that the stimuli were successful in eliciting contagious responses. Contagion susceptibility was operationalized as the frequency of the target behavior throughout the entire set of stimuli.

Participant eye gaze patterns while watching stimuli videos were recorded using the ASL desktop eye tracker and analyzed with ASL results plus software. The eyes and mouths of individuals in the stimuli videos were defined as the areas of interest in ASL. Percentage of time participant eye gaze fell within the eyes AOI was calculated separately for yawn stimuli and itch stimuli trials.

RESULTS

Because the mean number of yawns per participant (M = 0.31) and itches per participant (M = 0.29) were both <1, participants were coded dichotomously as "contagious yawners" or not and "contagious itchers" or not. Overall, 31% (30/97) of the sample displayed at least one contagious yawn during the presentation of yawn stimuli and 29% (28/97) of the sample displayed at least one contagious itch during the presentation of itch stimuli. **Table 1** describes the Mean, SD, and range of the sample in terms of chronological age, eye gaze, and measures of empathy, autistic traits, and psychopathic traits.

Contagious Yawning

Total scores on the IRI (empathy), AQ (autistic traits), and the PPI-R (psychopathic traits) were entered into a binary (participants were coded as contagious yawners or not) logistic regression model with contagious yawning serving as the dependent variable. The Hosmer-Lemeshow Goodness of Fit Test was non-significant, supporting the model's validity, $\chi^2_{(8)} = 9.9$, $p = 0.25$. The overall model, containing all predictor variables was significant, $\chi^2_{(3)} = 28.1$, $p < 0.001$, explaining between 25.1% (Cox and Snell R square) and 35.5% (Nagelkerke R squared) of the variance in contagious yawning response. However, only AQ score (measure of autistic traits) and PPI-R score (measure of psychopathic traits) made unique statistically significant contributions to the model. High levels of psychopathic traits were found to negatively predict contagious yawning $\chi^2_{(1)} = -14.9$, $p < 0.001$. In other words, the higher participants rated themselves in psychopathic traits, the less likely they were to yawn contagiously. Second, high levels of autistic traits also negatively predicted contagious yawning $\chi^2_{(1)} = -12.6, p < 0.001$, indicating that, overall, the higher participants rated themselves in autistic traits, the less likely they were to yawn contagiously than those who rated themselves lower in ASD traits. These overarching results largely replicate previous research indicating that contagious yawning is diminished, under naturalistic conditions, amongst individuals with so-called "empathy disorders." Total empathy scores were *not* unique predictors of contagious yawning status, $\chi^2_{(1)} = 0.07, p = 0.68$.

In order to test the hypothesis that the diminished tendency for people higher in autistic (but not psychopathic) traits to yawn contagiously was moderated by diminished eye gaze to target, the percentage of total time each participant spent fixated on the eyes of the yawning stimulus targets was calculated and this was entered into the regression model with AQ scores and PPI-R scores. Adding percent fixation on the eyes of the target yawn stimuli to the model increased the total variance explained by the model to 44.4%, $F_{(3,93)} = 14.19$, $p = 0.002$. When percentage of eye gaze to target was added to the model, the relationship between AQ scores and contagious yawning decreased in strength [going from $\chi^2_{(1)} = 12.3$, $p < 0.001$, to $\chi^2_{(1)} = 8.1$, $p = 0.003$], indicating that higher ASD scores predicting lower contagious yawning was moderated by the association between high ASD scores and lower percentage of time looking at the eyes. In other words, at least some of the reason for lower contagious yawning amongst participants with higher AQ scores can be explained by the tendency of participants with higher AQ scores to spend less time looking at the eyes of the target during the yawning stimulus trials. Notably, entering eye gaze information into the model slightly increased the strength of the relationship between psychopathic traits and contagious yawning [going from $\chi^2_{(1)} = -14.6$, $p < 0.001$ to $\chi^2_{(1)} = -16.3$, $p < 0.001$], indicating that the lower rates of contagious yawning among those with higher psychopathic traits *cannot* be explained by differences in eye gaze patterns toward the target. Entering attention to the mouth region (AOI) into the model, did not significantly change the model, $\chi^2_{(1)} = 28.4, p = 0.002$.

Finally, the subscales of the empathy scale (personal distress, empathetic concern, fantasy, and perspective taking) were entered into the model, in order to determine whether either cognitive (perspective taking, fantasy) or emotional (personal distress, empathetic concern) aspects of empathy might show a differential relationship with overall contagion. The model remained largely unchanged, $\chi^2_{(1)} = 29.6$, $p = 0.02$ with PPI = R scores, AQ scores, and eye gaze, remaining significant predictors.

Contagious Itching

Total scores on the IRI, AQ, and the PPI-R were entered into a binary logistic regression model with contagious itching (it occurred or did not) as the dependent variable. The model was significant, $\chi^2_{(1)} = 23.23$, $p < 0.001$, explaining between 22% (Cox and Snell R square) and 31.5% (Nagelkerke R square) of the variance, but only because psychopathic traits inversely predicted contagious itch, $\chi^2_{(1)} = -12.99$, $p < 0.001$. Neither autistic traits, $\chi^2_{(1)} = -0.214$, $p < 0.64$, nor empathy, $\chi^2_{(1)} = -1.55$, $p < 0.21$, demonstrated a significant relationship to contagious itch. Next, percent of total fixation time on the eyes of the itch stimulus targets was entered into the model leaving it largely unchanged, $\chi^2_{(1)} = 23.96$, $p < 0.001$, and contributing no unique variance to the model, $\chi^2_{(1)} = 0.66$, $p = 0.45$, indicating that direct eye gaze is not critical for transmitting contagious itch, as it is for transmitting contagious yawn. Finally, the subscales of the empathy scale (personal distress, empathetic concern, fantasy, and perspective taking) were entered into the model, $\chi^2_{(1)} = 33.986$, $p < 0.01$, accounting for between 29.9 and 42.9% of the variance in contagious itch response. Both higher self-reported levels of personal distress, $\chi^2_{(1)} = 6.62$, $p = 0.01$, and higher self-reported levels of psychopathic traits, $\chi^2_{(1)} = 9.70$, $p < 0.01$, were associated with higher levels of contagious itch.

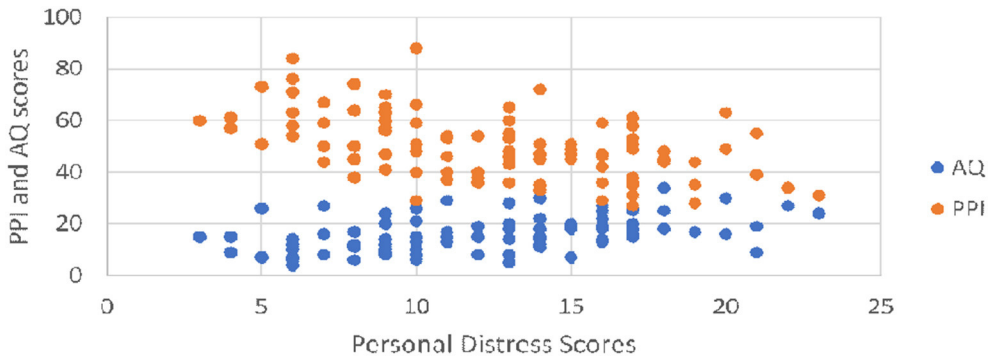

FIGURE 3 | As AQ scores increased, so did personal distress. AS PPI-R scores increased, personal distress scores decreased.

Correlations

Spearman's rho is reported as it is more robust to non-normal distributions. Despite the fact that yawning and itching appeared to reflect the influence of distinct predictors, these behaviors showed a trend toward correlation, $\rho = 0.161$, $p < 0.08$ meaning that those who exhibited one contagious behavior were more likely to exhibit the other. AQ and PPI-R scores were inversely correlated, $\rho = -0.449$, $p < 0.001$, indicating that these are largely non-overlapping traits, and, indeed, AQ and PPI-R traits show distinct patterns of relationships to eye gaze and the empathy subscales of the IRI.

ASD traits showed an inverse correlation with percentage of eye gaze to the AOI encompassing the target's eyes across both yawn stimuli, $\rho = -0.198$, $p = 0.05$, and itching stimuli, $\rho = -0.218$, $p = 0.05$. Results thus suggest that individuals with higher levels of ASD traits tended to spend *less* time looking at the eye region of the target than people with lower levels of these traits. Levels of psychopathic traits were unrelated to the amount of time a participant spent looking toward the eye region of the target either during yawn trials, $\rho = 0.102$, $p = 0.32$, or itch trials, $\rho = 0.051$, $p = 0.62$.

Finally, ASD traits and psychopathic traits showed different relationships to different facets of empathy (as measured by the subscales of the IRI). The IRI is composed of 2 scales thought to measure cognitive empathy (Perspective Taking and Fantasy) and 2 scales thought to comprise emotional empathy Davis (1983, 1994): Empathetic Concern (the tendency to experience other-oriented feelings of sympathy and compassion in response to another's misfortune), and Personal Distress (the tendency to experience self-oriented feelings of discomfort and anxiety in response to another's misfortune). We had hypothesized that higher levels of autistic traits might be inversely associated with perspective taking and fantasy skills (aspects of cognitive empathy), but neither empathetic concern nor personal distress (aspects of emotional empathy). We predicted the reverse pattern for higher psychopathic traits; that they would be inversely related to emotional empathy subscales (empathetic concern and personal distress) and unrelated to cognitive empathy subscales (perspective taking and fantasy). These hypotheses were largely unsupported. ASD traits showed no relationship to perspective taking, $\rho = -0.025$, $p = 0.81$, fantasy, $\rho = 0.075$, $p = 0.47$, empathetic concern $\rho = -0.110$, $p = 0.29$, or overall empathy, $\rho = 0.141$, $p = 0.20$. However, they showed a significant *positive* relationship with personal distress, $\rho = 0.504$, $p < 0.01$ (see **Figure 3**). Psychopathic traits also did not have a significant relationship with perspective taking, $\rho = -0.033$, $p = 0.75$, empathetic concern, $\rho = -0.158$, $p = 0.13$, or fantasy $\rho = -0.113$, $p = 0.28$, and showed a *negative* relationship with overall empathy, $\rho = -0.304$, $p < 0.01$, as well as with personal distress, $\rho = -0.488$, $p < 0.01$ (see **Figure 3**).

DISCUSSION

Consistent with previous research showing that individuals with diagnoses of ASD (Helt et al., 2010) or high levels of psychopathic traits (Rundle et al., 2015), are less likely to yawn contagiously, the current study found that individuals with either high levels of ASD traits or high levels of psychopathic traits were less susceptible to contagious yawning than their peers low in both types of traits. However, the current study also extends previous results by suggesting that underlying mechanisms influencing this diminished contagion in individuals with these two different types of traits, appear to be distinct. Individuals high in psychopathic traits are less susceptible to both contagious yawn and contagious itch and this susceptibility appears to be unrelated to direct eye gaze, and to be negatively correlated with overall levels of empathy. Meanwhile, individuals high in autistic traits are only less susceptible to contagious yawning, and (unlike in individuals with high levels of psychopathic traits), this relationship is moderated by eye gaze toward the target. Autistic and psychopathic traits appear to have distinct empathy profiles, most notably, opposite relationships to *personal distress* (**Figure 3**). Overall, this pattern of results indicates that participants with high levels of autistic traits and high levels of psychopathic traits are largely non-overlapping groups who show distinct patterns of susceptibility to contagion.

First of all, in the current study, the relationship between autistic traits and contagious yawning was moderated by eye gaze. In other words, people with higher levels of autistic traits spent less time looking directly at the eyes of the stimuli targets, and

TABLE 2 | Correlation matrix using spearman Rho.

	Yawn	Itch	AQ	PPI-R
Yawn		0.161 $P = 0.08$	*–0.211 $P = 0.04$	*–0.229 $P = 0.05$
Itch	0.161 $P = 0.08$		0.152 $P = 0.14$	*–0.447 $P < 0.01$
AQ	*–0.211 $P = 0.04$	0.152 $P = 0.14$		**–0.449 $P < 0.01$
PPI-R	*–0.229 $P = 0.05$	**–0.447 $P < 0.001$	**–0.449 $P < 0.001$	
Eye fixation to Itch stimuli only	0.185 $P = 0.09$	–0.040 $P = 0.69$	*–0.218 $P = 0.05$	0.051 $P = 0.62$
Eye fixation to Yawn stimuli only	*0.213 $P = 0.05$		*–0.198 $P = 0.05$	0.102 $P = 0.32$
IRI (total empathy score)	0.198 $P = 0.08$	0.177 $P = 0.09$	0.141 $P = 0.20$	**–0.304 $P = 0.003$
Empathetic concern	–0.027 $P = 0.79$	–0.051 $P = 0.63$	–0.110 $P = 0.29$	–0.158 $P = 0.13$
Fantasy	0.025 $P = 0.80$	0.090 $P = 0.39$	0.075 $P = 0.47$	–0.113 $P = 0.28$
Perspective taking	–0.019 $P = 0.86$	0.113 $P = 0.28$	–0.025 $P = 0.81$	–0.033 $P = 0.75$
Personal distress	–0.091 $P = 0.38$	*0.242 $P = 0.02$	**0.504 $P < 0.01$	**–0.488 $P < 0.01$

*Correlation is significant, $p < 0.05$.
**Correlation is significant, $p < 0.01$.

that explained some of the variance in why they were less likely to yawn contagiously. In contrast, participants with higher levels of psychopathic traits were less likely to yawn contagiously despite no diminished tendency to attend to the eyes of the targets (see **Table 2**).

Furthermore, being high in autistic traits was unrelated to one's tendency to itch contagiously; in other words, individuals high in autistic traits were no more or less likely to demonstrate contagious itch. In contrast, participants high in psychopathic traits were significantly less likely to itch contagiously. In other words, individuals with high levels of autistic traits were only less likely to exhibit the form of contagion transmitted *via* eye gaze, whereas individuals with high levels of psychopathic traits were less likely to exhibit both forms of contagion.

Contagious itch and contagious yawn also showed distinct predictors. Observer eye gaze to eye region of target was not a positive predictor of contagious itching, indicating that contagious itch is not transmitted *via* eye gaze, as hypothesized. Observer eye gaze was a positive predictor of contagious yawning, consistent with previous research demonstrating that eye gaze is a significant step in the transmission of contagious yawning (Provine, 1989; Senju et al., 2009). High levels of "personal distress" predicted contagious itch only. Personal distress has been suggested to be a pure measure of (or proxy for) emotional contagion (the tendency to take on the inner states of others without necessarily showing awareness of the source of the emotional state) (Decety and Ickes, 2011), but it may be more accurately characterized as the tendency to take on the negative emotions of others. Importantly, autistic traits showed a positive relationship with *personal distress* (a sub-component of emotional empathy), and no relationship with overall empathy scores. In contrast, psychopathic traits showed a negative relationship with personal distress, as well as an inverse relationship with overall empathy scores.

Overall results are consistent with the hypothesis that emotional empathy amongst individuals high in ASD traits is preserved (or possibly even heightened) under some conditions, and when "deficits" are found, they are likely secondary to diminished social attention. Although we must be cautious in speculating the extent to which a trait study such as this applies to individuals with diagnosed ASD, these results are consistent with a growing body of literature demonstrating that if an individual with ASD attends to and properly classifies an emotional or bodily signal associated with the inner state of another, they are likely to experience contagion and achieve bodily resonance with the other (e.g., Bird et al., 2010; Lockwood et al., 2013) (see **Figure 4**).

One previous study found that children with ASD showed *heightened* contagious itch compared with typically developing controls (Helt et al., 2020). The current study sheds light on a possible factor driving that relationship. The Adolescent and Adult Sensory processing checklist showed no relationship to the tendency to itch contagiously. Instead, the tendency to itch contagiously was found to be predicted by levels of *personal distress*. Similar to children diagnosed with ASD (Dziobek et al., 2008), participants high in ASD traits in the present study reported more personal distress (though no more contagious itch) than those low in ASD traits. Aversion to eye gaze, and the opportunities for shared emotion with others that accompany it (such as susceptibility to contagious yawning), increases along with ASD traits in the general population (Nummenmaa et al., 2012; Seara-Cardoso et al., 2012). Current results indicate that personal distress may do so as well. The positive relationship between "personal distress" (the tendency to take on the negative emotions of those around you) and autistic traits raises the possibility that young children with ASD may turn their attention inward as a defense mechanism against a tendency for heightened personal distress (as we would avert our eyes from something upsetting on a screen in order to self-regulate and reduce our arousal).

In contrast, diminished contagion amongst people with high levels of psychopathic traits does indeed appear to occur against the background of global deficits in emotional empathy. Dadds et al. (2006) reported that reduced eye gaze reverses fear contagion in children with callous and unemotional traits. However, the current results indicate that reduced eye gaze is not a viable contributing factor to why adults high in psychopathic traits are less likely to yawn (or itch) contagiously. Reduced eye gaze may be a signifier, rather than a cause, of reduced contagion in children with callous and unemotional traits, which is perhaps why increasing shared eye gaze between children with callous and unemotional traits and their caregivers have not been shown to have any sustained benefit (Dadds et al., 2019). In contrast, increasing eye gaze is often the first target in early intervention

	ASD traits	Callous & Unemotional /Psychopathic traits
Emotional Empathy	*Can appear impaired due to inattention *Intact or possibly heightened*	 *Impaired*
Cognitive Empathy	*Impaired*	*Intact or possibly heightened*

FIGURE 4 | Theoretical Model of distinct types of empathy deficits amongst those with distinct clinical traits.

with young children with autism as it is so beneficial (e.g., Weisberg and Jones, 2019).

It is notable that high psychopathic traits (in opposition to autistic traits) were inversely related to personal distress. Perhaps young children with callous and unemotional traits (the developmental precursor of psychopathic traits) do not experience as much distress themselves and so they are unable to achieve bodily resonance with others even when they are attending to others. It seems possible that when an individual high in psychopathic traits is observing another's distress, the individual's own level of distress is low and the individual's tendency to take on the emotion of the target is low. Indeed, one study reported that levels of alexithymia, rather than levels of ASD traits, correlate with empathy deficits (Bird et al., 2010), supporting the possibility that being able to *feel* corresponding emotions with others early in life may be even more crucial to the affective components of empathic development than *attending* to the emotions of others.

The current results contribute to previous literature suggesting that those high in psychopathic traits may register the relevant features of the stimulus or target and the empathy system engages but malfunctions—for example when those with psychopathy experience pleasure at another's pain (Yochelson and Samenow, 1976). In contrast, those high in ASD traits may tend not to register the salient features of strangers or stimuli of strangers, and thus often fail to engage the empathy system with strangers, but, for example, may register family members, and some types of stimuli, normally; in other words, the system is intact but less often activated (Lombardo et al., 2007; Dziobek et al., 2008; Minio-Paluello et al., 2009; Frith, 2012; Lockwood et al., 2013).

Limitations

Several factors limit interpretation of the current data. First of all, this was a relatively small and homogeneous sample of college students, not a clinical sample. However, as evidence has increased for a smooth continuum of ASD traits across the typical and clinical populations, as opposed to a discrete set of symptoms that appear only in cluster at a certain point of severity, research linking ASD traits to behavioral outcomes has become an increasingly common research focus (Happé and Frith, 2020). Previous studies have linked higher (subclinical) AQ scores to behavioral markers common in individuals diagnosed with ASD, from eye gaze (Nummenmaa et al., 2012; Seara-Cardoso et al., 2012) to more accurate pitch and temporal processing (Stewart et al., 2018) to lower performance on tests of social cognition and executive function (Gokcen et al., 2016). Second, the current study did not employ additional methods such as EMG, GSR, or fMRI during data collection. Third, all measures were self-report and no traits were verified by clinical observation. Future research in our lab will aim to address these limitations.

Clinical Implications

Frith (2012) first suggested the approach of making "fine cuts" to distinguish the empathy deficits amongst those with autistic vs. callous and unemotional traits in order to further understand the neural and behavioral underpinnings of each disorder and how to best treat them. The current study's results support the hypothesis that affective impairments found in people with ASD are mainly related to the recognition and processing of incoming stimuli, rather than to the actual ability to feel emotional distress or concern. It is important to continue to gather data regarding this broader hypothesis, as it may inform aspects of interventions that aim to improve empathic functioning in individuals with ASD vs. psychopathy. For example, if evidence continues to accumulate to support distinctions in the types of empathy experienced by individuals with these different traits, it implies that interventions in autism should seek to increase the extent to which the individual identifies with, or assigns personal significance to, unfamiliar others as well as increasing the individual's comfort with eye gaze early in development. In contrast, these distinctions imply that attending to the eye gaze of others may not be a sufficient intervention for those with psychopathic traits, and that, perhaps instead, interventions should take a form of training in which the *experience* of emotion is linked to the expression of that emotion in others to increase the likelihood of shared emotional experience.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Institutional Review Board, Trinity College. The

patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

MH: conceptualization, writing original first draft, editing, and supervision. RS: visualization, methodology, software, investigation, formal analysis, review, and editing. TS: methodology, software, investigation, formal analysis, review, and editing. MN: software, formal analysis, review, and editing. AL: software, investigation, and formal analysis. All authors: contributed to the article and approved the submitted version.

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Mentalizing Glasses: Multifocal Attention in Mentalization-Based Treatment and the Role of the Supervision

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Bifocal attention has been conceptualized differently by various scholars; however, all converge in the idea that the therapeutic process includes the need for the therapist to focus his attention on more than one aspect of the therapeutic setting. We propose a novel view in the application of bifocal attention within the mentalizing framework (MBT) of working with children, adolescents, and their families. We start by providing a short history of the evolution of the construct of bifocal attention, followed by a brief description of the structure of MBT for children and adolescents, emphasizing the crucial role of bifocal and multiple attentions in the mentalizing therapist. We close by discussing the importance of continued supervision in facilitating the maintaining of mentalizing glasses in therapy.

Keywords: bifocal attention, mentalization-based treatment, children, adolescents, supervision

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BIFOCAL ATTENTION WITHIN PSYCHOANALYTIC PSYCHOTHERAPY AND MENTALIZING

Freud defined "evenly suspended attention" as a necessary state of the psychoanalyst's mind in listening to the patient during the psychoanalytic session, giving equal attention to every aspect communicated by the patient (Freud, 1900). Bion (1962) proposed an additional layer to the evenly suspended attention, suggesting a bridge between affect and cognition, which he coined as the intervening phase, defined as the therapist integrating the patient's experiential objects while allowing cognitive activity. Fenichel (1941) emphasized the importance of considering this extra layer of attention and cautioned against an analyst being too passive, too suspended, and too free-floating.

Kohut (1971) introduced the construct of bifocal attention, positing parallel interactions occurring within the context of individual therapy. He emphasized the importance of bifocal attention in holding different perspectives in mind while listening to the patient. On the one hand, echoing Freud, Kohut (1971) stated that the therapist's attention should be directed to the here-and-now transference relationship, shedding light on early unconscious structural conflicts being replayed within the therapeutic setting. This includes free listening consisting of not directing one's attention to any particular detail (Freud, 1912). On the other hand, from a self-psychology perspective, he argued for the therapist's focusing his attention on

"the transference reactivation of thwarted developmental needs" (p. 155), providing a more accurate personalized understanding of the patient.

Within a group psychotherapy context, Battegay (1961, 1986) presented a bifocal approach to listening, focusing on the individual, in order to avoid or minimize narcissistic injury, but also considering paying attention to group dynamics. Horwitz (1977, 1993, 1994) expanded on his idea by emphasizing the importance of monitoring countertransference, the therapist's, or in this case the group's, feelings and affective reactions toward the patient, to better understand how group conflicts reflect and affect the individual's narcissistic self. In other words, as explained by Grotjahn (1991), the group therapist makes use of bifocal attention to keep both, the individual and the group in mind, at all times. Battegay (1961, 1999) further explained that, during group therapy, the patient not only reacts to the here-and-now group dynamics, neither does he/she solely react to the past; he posited a more complex interaction between group dynamics and what they evoke from one's past. He theorized that the group plays an amplifying effect of unresolved past issues to be worked on in the transference. The bifocal vision of the group therapist is therefore to hold both the patient's past and the here-and-now transference in mind in helping him/her make a more coherent narrative of unresolved past issues. Cramer (1995) emphasized the importance of the therapist's bifocal attention within the context of child psychotherapy, especially during the initial assessment, in the presence of the mother. He explained that linking the child's overt playing behaviors with the coherence of the mother's discourse helps elucidate the start and development of symptoms. In sum, whether in the context of individual or group therapy, one of the therapist's tasks is to maintain the attention on different dynamics and levels, which could be difficult at times. We therefore argue, as will be discussed later, for the importance of supervision in facilitating the therapist's maintaining bifocal attention during psychotherapeutic sessions.

What is the role of mentalizing in maintaining these different levels of attention? Mentalizing is a form of imaginative play, the capacity to hold one's own and others' beliefs and feelings in mind, understanding their roles in explaining behaviors (Fonagy et al., 1991; Fonagy and Target, 1997). In its widest sense, mentalizing includes a process of transformation based on Freud's concept of Bindung or linking (Freud, 1911). It is an ego function which transforms physical quantities and somatic experiences (immediate) into psychical ones (associative) by linking ideas to one another. Expanding on Freud's idea, Sterba (1934) coined the term observing ego as the healthy psychological function allowing the person to reflect upon their feelings, linking the affective and cognitive experience of emotions, and bridging the gap between the unconscious and conscious experience. The observing ego was later deemed to be one of the most important ego functions as it allows for self-observation and self-reflection (Blanck and Blanck, 1994). This process leads to the creation of associative pathways in order to adapt to the external reality, by creating stable mental representations of the self and others (Freud, 1911), in other words, mentalizing.

Bion (1962) described the process of containment, which he first noticed in patients who were expressing things they could not understand themselves, thus needing a container, the therapist, to make sense of them. Bion (1962) applied this idea to the mother-infant relationship, positing that the baby has raw sensations from the outside and inside that he cannot cope with, thus needing the mother to make sense of feelings of the self and others. Through this process of containment, the child goes through a continuous state of coming-to-know which gives meaning to emotional experiences, and, in time, will internalize this function and regulate his own negative affective states (Bion, 1962; Fonagy, 1999; Fonagy et al., 2003; Holmes, 2006). This is also necessary for the establishment of the contact barrier which differentiates between unconscious and conscious thinking, a notion echoed in the concept of mentalizing given that a pre-requisite to its acquisition is the ability to differentiate between reality and fantasy (Bion, 1962; Holmes, 2006).

MENTALIZATION-BASED TREATMENT AND THE MENTALIZING THERAPIST

As previously discussed, mentalizing capacities enable the individual to understand mental states of the self and others in order to explain overt behaviors. This construct has been later translated into a manualized therapy model, mentalization-based treatment (MBT; Fonagy and Bateman, 2006). Arguing the importance of integrating mentalizing within psychotherapeutic settings could be understood from two somewhat different perspectives: Some argued that most psychiatric patients show evidence of an inability to understand their mind (Vanheule et al., 2011), whereas others present the argument of dysfunctional mentalizing, arguing the development of this capacity but putting it to use for unlawful means (Allen, 2008; Bateman and Fonagy, 2008). In both cases, the role of the mentalizing therapist is to help the patient make the link between internal and external experiences, introducing a curiosity about one's own and the other's experience (Allen, 2003; Fonagy and Target, 2005). The rapport, or therapeutic alliance, is seen as reproducing a secure attachment relationship (Skarderud, 2007). The goal of MBTs would therefore include a focus on helping the patient acknowledge the connection and bridge the gap between the body/physical reality and the mind/underlying mental states, focusing on the here-and-now, through promoting mentalizing and working through instances of failures in mentalizing apparent through the transference (Fonagy et al., 2011).

Bateman et al. (2014) presented, in the quality manual for MBT, seven main competencies and skills of the MBT therapist facilitating the abovementioned objectives of this treatment approach. First, the "not-knowing, genuine and inquisitive therapist stance" through which the therapist is expected to model an authentic curiosity about the patient's internal world and mental states, focusing on a collaborative exploration, while being aware of the limits of one's knowledge of others. Second, "support and empathy" as the therapist should provide empathic responses to the patient's narrative and acknowledge, when

appropriate, attempts at mentalizing on his/her behalf. Third, "clarification" as the therapist should check-in with the patient to ensure a proper understanding of the narrative in an effort to make links between actions and feelings. Fourth, "exploration" as the therapist is expected to support the patient's curiosity about mental states, helping him/her overcome instances of non-mentalizing. Fifth, "challenge" as the therapist should encourage the patient to see a different perspective. Sixth, "affect focus" as the therapist is expected to help the patient think and elaborate on mental states and affective processes. Finally, seventh, "a focus on the relationship" as the therapist should make use of the here-and-now transference relationship in promoting mentalizing and exploring feelings or topics impeding these capacities, in order to focus on repairing the therapeutic relationship, serving as a model to other interpersonal relationships.

In sum, the seven expected competencies of the MBT therapist require the use of bifocal attention. The therapist is paying attention to what is going on inside the patient's mind as well as what the patient is concretely saying, is focusing the attention on the patient's affective response as well as one's own, and is targeting the here-and-now transference relationship as well as past attachment relationships. Bateman et al. (2014) emphasized the necessity of individual and/or group supervision as part of the MBT model, in order to ensure that the MBT therapist is mentalizing the patient and picking up on instances of mentalizing breaks, as will be later discussed in more detail.

USING MULTIPLE ATTENTIONS IN MBT-A AND MBT-C: MENTALIZING THE PARENT AND THE OFFSPRING

So far, we have discussed bifocal attention within the MBT framework in individual therapy and the competencies of the mentalizing therapist. Next, we argue the use of multiple attentions within the context of adolescent MBT (MBT-A; Rossouw and Fonagy, 2012) and child MBT (MBT-C; Midgley et al., 2017), demanding exceptional effort in keeping bifocal attention for the psychotherapist.

Indeed, working with children and adolescents within a mentalizing framework involves psychoeducation work with the parents, as well as individual work with the child/adolescent. Psychoeducation, in mentalizing terms, can be translated into holding the child in mind while discussing parental worries, but also helping the parent hold the child in mind and contain him/her in many instances. This is explained to the parent at the start of treatment, being transparent and clear about the aim and processes of this treatment approach. In fact, a crucial part of the initial assessment is to reach a mentalizing-based case formulation which is shared with the child/adolescent and the parent. However, this is only feasible if a working alliance and trust have been built between the therapist and the parent (Green, 2000). This therefore requires a form of neutrality from the therapist, not taking any sides between the child and the parent. In this sense, it is crucial, albeit difficult at times, for the therapist to keep them both in mind, while simultaneously, keeping enough freedom to empathize with and mentalize both.

This is of special importance for parents who might feel vulnerable in seeking help from professionals, as some tend to believe that the parental role should be inherent and natural, a role in which they feel they are failing at (Horne, 2000). In this sense, the child is seen as a catalyst, a facilitator of the wish to become a different (Green, 2000), or good-enough parent (Winnicott, 1965). In order to better understand and mentalize the child, the mentalizing therapist also enquires about the different systems in the child's/adolescent's life, getting a broader picture as to how he/she is perceived and (mis) understood (Horne, 2000). The therapist then holds this idea in mind while listening to the parent's narrative, while resisting the difficult task, at times, to slide into taking side with either of the parent or the child.

Another component the therapist needs to be aware of is the effect of the child's developmental phase on the parent's perception of self-efficacy, thus requiring yet another attentional process on the side of the therapist. Indeed, some parents tend to report feeling like they understood their offspring during childhood but face more difficulty during adolescence. As described by Green (2000), parenting a toddler requires a different set of skills than parenting an adolescent does. She states that there should be "an ongoing process of refinement and revision of the parents' theories of mind about their children congruent with and in response to their child's level of development" (p. 28); in other words, parents should be able to mentalize their developing child and themselves. The role of the therapist is therefore to assess parental mentalizing, keeping the offspring in mind, paying attention to failures in mentalizing in the parental narratives, allowing the parent to restore coherence and to see the child for who he is.

In both the MBT-A and MBT-C frameworks, the need for joint parent-child sessions was emphasized as a way to model mentalizing, to enhance communication and coherence, and to provide both the parent and the child with the necessary tools and techniques promoting mentalizing in their understanding of each other (Rossouw and Fonagy, 2012; Midgley et al., 2017). In these sessions, in line with Cramer (1995), the therapist uses multiple attention as he/she needs to keep in mind both the parent and the child, as well as monitor what is going on in the here-and-now of the session. This relates to two of the four mentalizing dimensions described by Fonagy and Luyten (2009). Firstly, mentalizing oscillates between the self and other; in other words, in this dichotomy bifocal attention entails monitoring and seeing ourselves from the outside, how others might be perceiving us, but also seeing others from the inside, being curious about what might be going on for them. This is crucial in the context of MBT as the therapist is constantly monitoring himself as well as the person sitting with him/her. Along the same lines, it can be argued that, in the process of mentalizing the other, the mentalization-based therapist is oscillating his/her attention between body and mind, i.e., between external and internal aspects of the patient. This bifocal attention on both, mind and body, is of

special importance in the case of babies and non-verbal children, whereby parents and therapists need to "transform infants' movements into meaningful and intentional mental states" (Shai and Belsky, 2011a, p. 188), coined as embodied mentalizing.

Midgley et al. (2017) further explain that children tend to resort to pre-mentalizing modes of thinking before the full development of mentalizing capacities, one of which includes the teleological of thinking. At this stage, the child relies on the concrete external world in order to make sense of internal experiences. Another pre-mentalizing mode is psychic equivalence whereby the child believes that the internal subjective experiences are reality. The role of the therapist is therefore to pay attention to both internal and external manifestations of pre-mentalizing capacities in order to help the child reach more complex genuine mentalizing.

Secondly, mentalizing can be measured on another dimension, involving explicit/controlled and implicit/automatic aspects, the former becoming more acute with development (Fonagy and Luyten, 2009). Explicit mentalizing is a capacity which can be taught by the therapist during joint parent-offspring sessions for instance by encouraging the parent to be curious and consider alternative explanations to one event, promoting perspective taking. This capacity also encourages the use of bifocal attention as the therapist should be able to listen to what the parent is saying, while at the same time knowing how and when to challenge their version of a narrative, in line with Kohut's (1971) idea. In this way, the therapist facilitates the development of mentalizing in the parent, while at the same time modeling the mentalizing process, using psychoeducation, explaining to the parent the importance of curiosity about the child's mental states, challenging and exploring different perspectives, while at the same time understanding the other's point of view. This dimension is also apparent within the context of parental embodied mentalizing as it involves both an explicit mentalizing of verbal behaviors and an implicit mentalizing and understanding of non-verbal behaviors, allowing parents to extrapolate the child's mental states (Shai and Belsky, 2011b).

But what about the direct work with the offspring? This can be best understood through this concrete example of a 16-year old girl, throwing a jealousy fit because her boyfriend did not instantly answer her text messages, despite having read them. "He was online! I saw him! And he read my messages and did not answer. I know he is talking to that girl. I knew she liked him and would try to make a move on him. He is asking her out, I know it!" This adolescent is relying on pre-mentalizing modes of thinking, namely, psychic equivalence as she seems certain of her boyfriend's disloyalty without any concrete proof of it. In this case, the MBT-A therapist acknowledged how difficult and anger-provoking this might feel to the adolescent who is perceiving abandonment and wonders, with the patient, whether there are other alternatives. "I cannot know what this must have felt for you but you sound pretty angry with him. I wonder whether we can think together what might be going on there… Imagine your best friend talking, what do you think she would have told you?" Sometimes, getting the adolescent to think of what one of the peers would have said tends to facilitate the kick start of mentalizing, as it allows them to take a step back from their dysregulated self and look at the interpersonal distress from a different perspective, a hallmark of mentalizing. In this example, the mentalizing therapist focused the attention on what the adolescent is saying but was also being curious about what might have been going on internally and what could have triggered her failure to mentalize. The therapist facilitated the restoring of mentalizing by shifting the adolescent's attention to a friend's perspective, a less threatening and less anxiety-provoking situation.

THE IMPORTANCE OF SUPERVISION IN KEEPING MENTALIZING GLASSES ON

As described above, MBT-C and MBT-A therapists focus their attention on various layers presented by the patient and his/her parent. So how can we ensure that the therapist is genuinely mentalizing the family and is able to monitor his/her own failures to mentalize? Many psychotherapy models rely on three main aspects during training, first the direct experience of therapy, second the theoretical principles and foundations, and third supervision (Brunori et al., 2007). Similarly, one essential component of the MBT model is the ensuing bi-weekly or monthly supervision, individually and/or in groups. Its aim is not only to ensure the therapist's adherence to the MBT model, but also more importantly to ascertain the continued practitioner's ability to reflect on the interventions used in enhancing the patient's mentalizing capacities (Bales et al., 2012; Laurenssen et al., 2014). It can be argued that "supervision in MBT need to emphasize the importance of focusing on mental states and continuous assessing of the patient's current mentalizing level" (Möller et al., 2017, p. 760). In mentalizing terms, this reflects the necessity of a constant monitoring of mentalizing levels, in order to keep the patient, and the therapist, away from hypomentalizing (low levels of mentalizing) and hypermentalizing (over-mentalizing), both reflecting deficits in this capacity (Fonagy et al., 2016).

In the case of supervision, attention has to be divided across many mentalizing agents. Not only is the supervisor focusing on the supervisee and his/her patient, but also attention should be given to mentalizing the transference relationship and moments where breaks in mentalizing occur, in order to reflect upon the reasons behind them. This could be due to the therapist's characteristics, such as his/her own attachment history which could be triggering the mentalizing difficulties, or it could be based in the patient's own problems and history. For instance, in the short vignette presented above, a therapist could have missed exploring or being curious about what might be going on in the adolescent's mind, attributing it simply to that developmental stage and the egocentrism of adolescents. However, an MBT supervisor could use the inquisitive therapist stance to further explore whether a potential failure to mentalize on behalf of the therapist could relate to his/her own attachment history, a fear of abandonment or feeling of betrayal, which might have led to hypomentalizing the patient and not picking

up on their failure to mentalize. In other words, the MBT supervisor is focusing the attention on the patient, the therapist, and the patient-therapist relationship, at the same time, in order to restore mentalizing in the patient-therapist relationship, as well as the therapist-supervisor relationship. The latter emphasizes another layer of attention and mentalizing as the supervisor should also be aware of their own failure in mentalizing which might be triggered by the here-and-now relationship between supervisor-supervisee. In group supervision, the group dynamics are mentalized as well. This is an essential element of the supervision process as the supervisor's ability to contain the group facilitates the MBT practitioners' ability to share the emotions and reflect upon the therapeutic process (Brunori et al., 2007).

In more practical terms, we suggest that, in order to keep mentalizing glasses on, the MBT supervisor should adhere to and stay in check with the basic competencies of the MBT therapist highlighted above, namely: (1) show authentic curiosity in paying attention to the multiple relationships, both the relationship in the room (therapist-supervisor) and the one held in mind (patient-therapist). This can be done through authentic questioning and thinking about the affective processes, both past and present, being brought to the therapy/supervision session; (2) provide empathy to the therapist in thinking about the patient, discussing difficulties, and providing support through failures in mentalizing. Noteworthy is the capacity to repair mentalizing as a bridge towards emotion and affect regulation; (3) challenge the therapist to explore the here-and-now relationship with both the patient and the supervisor as a way to explore different perspectives, instances of pre-mentalizing or breaks in mentalizing; and (4) use the therapist-supervisor relationship and the here-and-now transference relationship in promoting mentalizing and exploring feelings or topics impeding these capacities, in order to focus on repairing the patient-therapist relationship, serving as a model to other interpersonal relationships.

DISCUSSION

This paper started by emphasizing one of the difficult tasks of the psychoanalytic psychotherapist, namely, dividing the attention across the many layers of the patient's history from the past to the present, the transference and countertransference, as well as bridging the gap between unconscious and conscious (Freud, 1900; Fenichel, 1941; Bion, 1962). This bifocal, and at times, multifocal attention is also apparent within the context of group therapy (Battegay, 1961, 1986; Horwitz, 1977, 1993, 1994). We argued that another construct based within psychoanalytic theory, mentalizing, plays a major role in facilitating multifocal attention within therapy. Namely, a mentalizing therapist should have competencies ensuring his/her holding multiple perspectives in mind; in other words, the mentalizing therapist is paying attention to what is concretely/explicitly being said within the session, but also what is implicitly expressed, both affectively and cognitively, based on past and present relationships. We further explored the idea of multifocal attention within the MBT-C and MBT-A frameworks, where the use of this capacity is crucial given the various minds to be mentalized (Rossouw and Fonagy, 2012; Midgley et al., 2017). In fact, the attention is focused on the parent, his/her past, his/her current relationship with the child as well as the here-and-now transference relationship, with the same applying to the child.

Given this difficult task, this paper argued the fundamental role of supervision in keeping the mentalizing glasses on. Here, another layer of attention is added as the therapist is invited, through individual and/or group supervision, to reflect upon instances of mentalizing failures, exploring the reasons behind it and finding ways to bring mentalizing back online. The mentalizing supervisor is thus focusing the attention on various layers of two main relationships: the therapist-patient and the supervisor-therapist relationships. We concluded by providing practical tips focusing on how the mentalizing supervisor helps the mentalizing therapist keep his/her mentalizing glasses on. The list is in no way exhaustive, but somewhat suggests directions ensuring and facilitating the use of mentalizing as a way to maintain the attention on the different dynamics, layers, and relationships explored and worked through within the context of psychotherapy. It would be of interest to attempt to quantify these constructs in order to explore how the mentalizing supervisor's ability for multifocal attention affects the mentalizing therapist's adherence to the MBT framework, but also the effectiveness of the work done with the patient, in terms of both therapy outcome and the patient's mentalizing capacities.

CONCLUSION

We contend that supervision plays a crucial role in the maintaining of the MBT therapist's mentalizing glasses. The combination of individual and group supervision within the MBT model "allowed the development of a 'shared reflective function,' as a joint effort of supervision and evaluation work" (Brunori et al., 2007, p. 233). This approach, it can be argued, promotes the therapist's ability to imagine the internal world of the patient, facilitating the ability to understand behaviors and symptoms in terms of underlying mental states.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, and further inquiries can be directed to the corresponding authors.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work and approved it for publication.

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BRIEF RESEARCH REPORT
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Sense of Coherence and Burnout in Healthcare Professionals in the COVID-19 Era

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Emotional exhaustion in the context of vulnerability to burnout is a part of the universal narrative of high stress and systematically reported in healthcare professionals. The sense of coherence (SOC) is a salutogenic construct, operationalized by A. Antonovsky as a generalized resistance resource (GRR) to stress in three dimensions: meaningfulness (Me), the desire of a person to be motivated to cope; comprehensibility (C), the belief that the challenge is understood; and manageability (Ma), the belief that coping resources are available. The relation between SOC and the dimensions of burnout—Emotional Exhaustion (EE), Depersonalization (D), and Personal Accomplishment (PA)—is a part of salutogenic functioning, which reveals the inner motivation and self-organization of the psycho-emotional energetic resource. This study traces the salutogenic functioning of Bulgarian healthcare professionals during the pandemic. A general psychological background of coherence and exhaustion has been identified. All components of the SOC were positively correlated to Personal Accomplishment. Emotional Exhaustion and Depersonalization correlated negatively with coherence. SOC was validated as a possible determinant to predict the reduction of exhaustion and depersonalization as well as high levels of professional performance. The dimension of Meaningfulness in the coherence phenomenon was demonstrated to have the highest predictive value for professional burnout.

Keywords: sense of coherence, salutogenic functioning, burnout, COVID-19, health care professionals, mentalization, Bulgaria

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INTRODUCTION

Various mental changes and issues, which have their own evolutionary significance, have been observed in the contemporary reality of worldwide crisis caused by the pandemic. Since the general human sense of normality has been disrupted, a number of questions concerning health and pathology have emerged as the natural consequence. Therefore, the origination of a novel concept termed *a new normality*, which is associated with COVID-19 in the public speech, is no coincidence (1–6). The pathogen itself has been denominated as SARS-CoV-2 (7, 8). The healthcare management worldwide has been challenged to transform its conventional operational and applied practical frameworks (9). Such biopsychosocial eventfulness is a major facilitator of professional burnout in all its phenomenological forms considering the various stress levels. Vulnerability to burnout is a compound construct consisting of diathesis (personality trait) and stress (psychological climate); hence, it is complementary to specific personality profiles. Dimensions of the professional

environment such as autonomy, cohesion, trust, support, recognition, fairness, and innovation exhibit a negative correlation with EE. Furthermore, PA, or performance in the context of burnout, correlates positively with traits such as persistence, self-directedness, and self-transcendence [(10), p. 4–92].

The existing agenda of the world has been objectively deconstructed. From the perspective of analytical psychotherapy, COVID-19 is a catastrophic phenomenon, and the social living body has suffered an entropic collapse (11). The political decisions in the affected countries have been focused altogether on unified measures for prevention and control in accordance with the World Health Organization (WHO) guidelines (12). The measures consisted of quarantine, lockdown, social distancing, mandatory usage of face masks, working and tutoring in an online environment, establishment of hospital wards dedicated to the treatment of patients with COVID, and the development of therapeutic strategies and vaccines. This inevitable repertoire of critical readiness and coping in the field of traditional medicine has been defined as a focal point on pathology and disease, or pathogenic orientation by Antonovsky (13, 14). He designated the forces driving the different health attitudes as non-entropic factors and created the sense of coherence (SOC) scale. Even though this scale did not exhaust the entirety of salutogenic models, it remained as a central construct in his theory. The salutogenic idea affirmed the ability of a person to use external and internal resources in order to manage ubiquitous stressful situations. In Antonovsky's concept of SOC, there is a cognitive component represented by the dimension of comprehensibility, an instrumental component delineated by the manageability, and a motivational component assessed through the dimension of meaningfulness (13). According to this theoretical framework, the processes of entropy and negentropy in the collective human community require timely psychosocial identification. Thus, it is of significant importance to observe these processes in cohorts composed of professionals groups of people engaged in the core of urgency, generated by the *independent variable* COVID-19.

People who are most actively engaged in the crisis management caused by COVID-19 are healthcare professionals. According to most authors, they are the most affected group. Common mental health consequences, which have arisen in the current situation, such as depression, anxiety, panic, anger, confusion, ambivalence, and financial distress, have occurred in this societal cohort in the context of previous pandemics (15). For example, depression, anxiety, and post-traumatic stress disorder (PTSD) were demonstrated to be the most common mental disorders in healthcare professionals during the 2003 SARS and 2014 Ebola virus pandemics (16–18). New representative studies reported insomnia and distress (19, 20). Psychological resilience has also been associated with symptoms of depression and anxiety in this group (21, 22). The results from contemporary research in the scientific literature support the unequivocal necessity for prioritization of mental healthcare in medical professionals.

In order to develop a solution that informs the management and organizational policies during a pandemic, and in essence salutogenic, it is of paramount significance to conduct studies addressing the generalized resistance resources (GRRs) in relevant vulnerable groups. The observed collective grief has been incorporated into a hypothesis that recognizes the emotions that have ascended during the COVID-19 pandemic as very similar to bereavement, as in the case of losing a loved one. They have been present in the general population as a result of the loss of normalcy due to the various restricting measures adopted around the world. Furthermore, this phenomenon can be viewed as a precondition to a sense of emptiness and loss of meaning in life (23, 24). The meaning in life has been analyzed as a stable factor, which in concordance with other factors may function as a buffer against stress reactions in the pandemic context. In addition, the attainment of a sense of meaning in life has been associated with low levels of anxiety and emotional distress (25). In a prospective study of the relationship between psychopathological symptoms and SOC before and after the COVID-19 outbreak, Schäfer et al. (26) have established an inverse proportion ratio. Higher levels of SOC have been associated with a lower severity of PTSD symptoms (27). In the past year, a large variety of scientific research has reported an increased frequency of anxiety disorders, depression, PTSD, and other mental health crisis as a detrimental effect from the general psychological distress in the conditions of COVID-19.

Rajkumar (28) has outlined a conceptual salutogenic framework for a mental health approach that can integrate the principles of existential positive psychology and salutogenesis, which has been based on thoroughly reviewed previous experience and a critical analysis. The highlights of this approach are assessing the psychological distress in terms of the risk for auto- or allo-aggression, comprehending suffering outside of the conventional diagnostic criteria, interpreting the "story of the person," determining the individual's current SOC, and deriving therapeutic meaning from suffering. Suffering has been defined as a state of severe distress associated with events that threaten human integrity and intactness (29). In its holistic salutogenic aspect, suffering has been presented as a potential positive source of learning that can contribute to the restoration of lost or threatened integrity (30, 31).

THE CURRENT STUDY

Our research paradigm was motivated by the existential problems focused on the sense of meaning and suffering, and the psychological constructs we chose to measure have a significant conceptual overlap. The profound symptoms of burnout are universally expressed *via* indifference, anhedonia, and loss of meaning (10, 32). In theory, meaningfulness exhibits the same psychological structure as in the dimensions of the SOC. Such a research perspective, which in high extent informs construct validity characteristics, is designed to identify salutogenic functioning in a specific stress context in a specific sample. The SOC is not a construct associated with culture (13). This fact is particular with regard to possible modifications in the existing guidelines, recommendations, and policies for re-adaptation and mental healthcare. We expected a substantial association and prognosis of SOC both in line with burnout and in line with

personal accomplishment as an aspect to mental health. The need for proactive research to identify GRR in this group is outlined (28, 30, 32, 33).

MATERIALS AND METHODS

The survey was intended to be short and, after a block of questions on demographic data two assessment tools, was combined—Maslach Burnout Inventory (MBI) with 22 items and a brief nine-item SOC scale (34, 35). The study was approved by the National Ethics Committee of the Bulgarian Association of Health Care Professionals with Protocol No. 2/10.05.2021.

Measures of Burnout

Professional burnout is assessed in three dimensions: Emotional Exhaustion, Depersonalization, and Personal Accomplishment (the last ranking scale is reversed). The original Maslach Burnout scale is composed of 22 items, which are answered on a seven-grade scale from 0 (never) to 6 (always). Emotional Exhaustion (EE) expresses the depletion of psychoenergetic resources of human. Depersonalization (D) scale in this tool allows an assessment of withdrawal—emotionally, mentally, and socially—as well as a negative attitude toward oneself and others, without including psychopathology. In the Bulgarian standardization of the Maslach test, this scale is translated as Dehumanization. Dehumanization is analyzed as an alienation from human suffering. Personal Accomplishment (PA) is the dimension of personal effectiveness, assessment of interest in development, and improvement in the profession. In the Bulgarian adaptation, the scale is translated as reduced Personal Accomplishment (10). Cronbach's α for a summated score based on the 22 MBI items is 0.732.

Sense of Coherence

We used the Norwegian version, a shortened nine-item version of Antonovsky's original 13-item SOC scale, which has very good psychometric indicators with epidemiological data from a mental health survey of adults in local communities (N = 1,062). The instrument has not been applied in Bulgaria. The stages of translation and cultural adaptation were as follows: translation with conceptual and linguistic evaluation, back-translation, comparison of the source and target version, and verification of the new instrument. Cronbach's α to assess the reliability of the SOC scale in our sample is 0.807. SOC is assessed in three components: Meaningfulness (Me), Manageability (Ma), and Comprehensibility (C). Antonovsky defines SOC as a global orientation, which expresses the extent to which a person has a pervasive, enduring, and dynamic feeling of confidence that the diversity of stimuli deriving from internal and external environments in the course of living is structured, predictable, explicable (the cognitive component—comprehensibility); the resources are available to meet the demands posed by these stimuli (the instrumental component—manageability); and these demands are challenges, worthy of investment and engagement (the motivational component—meaningfulness). Three of the items have been reversed. The original scale for each item is seven-grade: from 1 (very often) to 7 (very seldom or never). A high score is an indicator of high SOC (34).

Participants

Participants in the present study are 147 Bulgarian healthcare professionals aged between 24 and 63 years. The sample is predominantly female: there are 146 women in it. The research was conducted anonymously, voluntarily, and online with the collaboration of the Bulgarian Association of Healthcare Professionals in Bulgaria 1 year after the announcement of national quarantine on March 13, 2021. In that time, the questionnaires were administered. All specialists live and work on the territory of Bulgaria: 15.6% (N = 23) in the capital, 76.2% (N = 112) in a district town, 7.5% (N = 11) in a small town, and 0.7% (one person) in a village. The duration of their professional experience varies from 1 to 43 years' work in the specialty. Of them report, 45.5% (61) that they combine more than one professional role: in 17.7% (26), this activity is student training, and 6.8% (10) of the respondents have a private medical practice. The rest of them work in two places in the healthcare system. The Google Form platform is used. All participants have declared an electronic informed consent to participation. American Psychological Association (APA) ethical guidelines for psychological research have been followed (36).

Data Analysis

The research variables are described in terms of central tendency measures (mean, median, mode, and SDs) and data distribution (excess and asymmetry). Demographic and professional characteristics of the participants are also presented. Then reliability analysis of using scales was performed. Linear relation between the variables was tested with Pearson's correlation coefficient. Linear regression analysis was performed to assess the prognostic values of burnout dimensions from the SOC. SPSS 23.0 has been used for the data processing and analysis.

RESULTS

The distribution of responses of all items follows normal distribution—the coefficients of asymmetry (skewness) and excess (kurtosis) are in the interval (−1; 1). The mean age of health professionals is 46.4, and the mean duration of their professional experience is 22.7 years (**Table 1**).

The sample is represented almost exclusively by female subjects: only one male subject took part in it. The majority of health professionals are employed as nurses-−59.9% (N = 88). The next subgroup in the sample is composed of midwives-−17.7% (N = 26). The other health professionals are distributed as follows: psychiatrists 2% (N = 3), trainees in psychiatry 0.7% (N = 1), surgery nurses 2% (N = 3), nurses in oncology 0.7% (N = 1), nurse in intensive care 0.7% (N = 1), nurse in psychiatry 0.7% (N = 1), school nurse 0.7% (N = 1), perfusionist 0.7% (N = 1), senior nurses 1.4% (N = 2), emergency nurse 0.7% (N = 1), radiology technician 1.4% (N = 2), rehabilitator 0.7% (N = 1), medical laboratory assistants 4.1% (N = 6), clinical laboratory assistant 0.7% (N = 1), histological laboratory assistant 0.7%

TABLE 1 | Descriptive statistics of the distributions with data for SOC and MBI subscales and other variables in the analyses.

	N	Minimum	Maximum	Mean	Median	Mode	Std. deviation	Skewness (asymmetry)	Kurtosis (excess)
EE	146	3	51	23.42	22.00	22	11.065	0.254	−0.608
D	147	0	22	7.96	7.00	6	5.391	0.519	−0.580
PA	147	17	42	31.21	31.00	30	5.410	−0.152	−0.232
Me	147	4	21	15.78	16.00	17	3.760	−0.632	−0.052
Ma	147	3	21	12.89	13.00	13	4.379	−0.361	−0.559
C	147	5	21	14.29	14.00	16	3.877	−0.065	−0.804
General SOC	147	15	62	42.96	43.00	35	9.826	−0.804	−0.516
Age (years)	146	24	63	46.39	47.00	52	9.135	−0.410	−0.098
PE	147	1	43	22.74	24.00	30	11.053	−0.377	−0.598

PE, professional experience; SOC, sense of coherence; MBI, Maslach Burnout Inventory; EE, Emotional Exhaustion; D, Depersonalization; PA, Personal Accomplishment; Me, meaningfulness; Ma, manageability; C, comprehensibility.

($N = 1$), public health and health management—management function 0.7% ($N = 1$), paramedics 1.4% ($N = 2$), and assistants and lecturers in medical universities 2% ($N = 3$).

The values of Cronbach's α coefficient for reliability of the scales and subscales of methods are determined for Emotional Exhaustion (nine items), $\alpha = 0.932$; Depersonalization (five items), $\alpha = 0.769$; Personal Accomplishment (eight items), $\alpha = 0.559$; a summated score based on the 22 MBI items, $\alpha = 0.732$; Meaningfulness (three items), $\alpha = 0.643$; Manageability (three items), $\alpha = 0.690$; Comprehensibility (three items), $\alpha = 0.612$; and General SOC (a summated score based on the nine items), $\alpha = 0.807$ (**Table 2**).

TABLE 2 | Internal consistency (Cronbach's α) of the SOC and MBI subscales.

Scales	No. of items	Cronbach's α
Emotional exhaustion	9	0.932
Depersonalization	5	0.769
Personal Accomplishment	8	0.559
MBI	22	0.732
Meaningfulness	3	0.643
Manageability	3	0.690
Comprehensibility	3	0.612
General SOC	9	0.807

SOC, sense of coherence; MBI, Maslach Burnout Inventory.

Correlation analysis indicates that Emotional Exhaustion and Depersonalization are significantly and negatively associated with all dimensions of SOC. The analysis between Emotional Exhaustion and Meaningfulness ($r = -0.572$, $p < 0.01$), Manageability ($r = -0.606$, $p < 0.01$), Comprehensibility ($r = -0.432$, $p < 0.01$), and General SOC ($r = -0.661$, $p < 0.01$) shows that in the aspect of exhaustion, the cognitive, instrumental, and motivational components that comprise coherence are unstable. The analysis between Depersonalization and Meaningfulness ($r = -0.546$, $p < 0.01$), Manageability ($r = -0.443$, $p < 0.01$), Comprehensibility ($r = -0.306$, $p < 0.01$), and General SOC ($r = -0.527$, $p < 0.01$) reveals that emotional and social withdrawal in burnout are also associated with low levels of coherence. In terms of Personal Accomplishment, the dimension of effectiveness and the interest in self-improvement in burnout assessment, it correlates positively and strongly with the components of coherence: Meaningfulness ($r = 0.557$, $p < 0.01$), Manageability ($r = 0.443$, $p < 0.01$), Comprehensibility ($r = 0.383$, $p < 0.01$), and General SOC ($r = 0.562$, $p < 0.01$). These associations might be interpreted in the context of salutogenic functioning (**Table 3**).

The prerequisites for linear regression analysis are fulfilled. All SOC scales significantly predict the dimensions of burnout.

Meaningfulness predicts Emotional Exhaustion, $F_{(1, 144)} = 70.054$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.32; accordingly, 32% of the variance of EE can be explained by Me. Meaningfulness predicts Depersonalization, $F_{(1, 145)} = 61.541$, $p < 0.001$. The value of the adjusted R^2 is −0.29; accordingly, 29% of the variance of D can be explained by Me. The significant values are with a minus sign, which indicates inverse relation. It implies that Me significantly predicts the reduction of EE and D. Meaningfulness predicts Personal Accomplishment, $F_{(1, 145)} = 65.229$, $p < 0.001$. The value of the adjusted R^2 is 0.31; accordingly, 31% of the variance of PA can be explained by Me. In this regression model, the motivational component of the SOC significantly predicts the professional performance.

Manageability predicts Emotional Exhaustion, $F_{(1, 144)} = 83.509$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.36; consequently, 36% of the variance of EE can be explained by Ma. Manageability predicts Depersonalization, $F_{(1, 145)} = 35.434$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.19; consequently, 19% of the variance of D can be explained by Ma. The significant values are with a minus sign, which indicates inverse relation: Ma significantly predicts the low levels of EE and D. Manageability predicts Personal Accomplishment, $F_{(1, 145)} = 35.404$, $p < 0.001$. The value of the adjusted R^2 is 0.19; accordingly, 19% of the variance of PA can be explained by Ma. In this regression model, the instrumental component of the SOC significantly predicts the professional efficiency.

TABLE 3 | Correlations between SOC and MBI scales.

	Meaningfulness	Manageability	Comprehensibility	General SOC
Emotional exhaustion	−0.572**	−0.606**	−0.432**	−0.661**
Depersonalization	−0.546**	−0.443**	−0.306**	−0.527**
Personal accomplishment	0.557**	0.443**	0.383**	0.562**

SOC, sense of coherence; MBI, Maslach Burnout Inventory.
***Correlation is significant at the 0.01 level (two-tailed).*

Comprehensibility predicts Emotional Exhaustion, $F_{(1, 144)} = 32.961$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.18; therefore, 18% of the variance of EE can be explained by C. Comprehensibility predicts Depersonalization, $F_{(1, 145)} = 15.031$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.09; therefore, 9% of the variance of D can be explained by C. The significant values are with a minus sign, which indicates inverse relation: C significantly predicts the low values of EE and D. Comprehensibility predicts Personal Accomplishment, $F_{(1, 145)} = 24.986$, $p < 0.001$. The value of the adjusted R^2 is 0.14; therefore, 14% of the variance of PA can be explained by C. In this regression model, the cognitive component of the SOC significantly predicts high professional efficiency.

General SOC predicts Emotional Exhaustion, $F_{(1, 144)} = 111.500$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.43; accordingly, 43% of the variance of EE can be explained by C. General SOC predicts Depersonalization, $F_{(1, 145)} = 15.031$, $p < 0.001$. The value of the adjusted coefficient of determination (adjusted R^2) is 0.27; accordingly, 27% of the variance of D can be explained by General SOC. The significant values are with a minus sign, which indicates inverse relation. Or General SOC significantly predicts the low levels of EE and D. General SOC predicts Personal Accomplishment, $F_{(1, 145)} = 66.892$, $p < 0.001$. The value of the adjusted R^2 is 0.31; accordingly, 31% of the variance of PA can be explained by General SOC. In this regression model, all components of the SOC significantly predict high professional performance (**Table 4**).

TABLE 4 | Results of linear regression analysis of relation between SOC and burnout.

Independent variable/predictor	R^2	*B*	β	*t*	*p*
4.1. Emotional exhaustion					
Meaningfulness	0.323	−1.684	−0.72	−8.370	0.000
Manageability	0.63	−1.531	−0.06	−9.138	0.000
Comprehensibility	0.81	−1.232	−0.32	−5.741	0.000
General SOC	0.32	−0.44	−0.61	−10.559	0.000
4.2. Depersonalization					
Meaningfulness	−0.93	−0.83	−0.46	−7.845	0.000
Manageability	0.91	−0.46	−0.43	−5.953	0.000
Comprehensibility	0.88	−0.26	−0.06	−3.877	0.000
General SOC	0.73	−0.89	−0.27	−7.473	0.000
4.3. Personal accomplishment					
Meaningfulness	0.06	0.01	0.57	8.076	0.000
Manageability	0.91	0.47	0.43	5.651	0.000
Comprehensibility	0.41	0.45	0.83	4.999	0.000
General SOC	0.11	0.09	0.62	8.179	0.000

SOC, sense of coherence.

DISCUSSION

Emotional or psychological distress has an identical phenomenology with the symptoms of professional burnout. Burnout is predicted by complex factors of distress emerging from the realities of the current pandemic. There is agreement in common literature that health professionals are among the most affected groups, as their medical profiles and affiliation confront them instrumentally against the personalized and global threat called COVID-19. This study identifies the general psychological background of exhaustion and coherence through the assessment of SOC and burnout in a Bulgarian sample of healthcare professionals. The results replicate relations reported in the literature regarding the moderating and mediating role of SOC on mental (ill) health (26, 27, 34, 37–39) but differ in terms of the current context of pandemic crisis.

We found substantial associations between all components of the SOC and the burnout dimensions. Meaningfulness and General SOC are associated with high levels of Personal Accomplishment on the one hand, and Emotional exhaustion and Depersonalization are associated with low levels of SOC on the other. These trends set the background for more salutogenic functioning of health professionals. Linear regression analysis using the Enter method revealed significant regression models that combine all SOC and burnout variables. The variation of Emotional Exhaustion is significantly predicted in 32% by Meaningfulness, 36% by Manageability, 18% by Comprehensibility, and 43% by General SOC. The variation of Depersonalization is significantly predicted in 29% by Meaningfulness, 19% by Manageability, 9% by Comprehensibility, and 27% by General SOC. The variation of Personal Accomplishment is significantly predicted in 31% by Meaningfulness, 19% by Manageability, 14% by Comprehensibility, and 31% by General SOC. Therefore, the combination of motivational, instrumental, and cognitive components of SOC significantly predicts professional performance and burnout in healthcare specialists. The moderating role of

SOC in regard to professional and emotional stress has been confirmed. However, these results require further analysis to compare data across centers, professional groups, and cultural contexts.

In line with previous studies (28, 30, 33), we have identified GRR in relevant vulnerable groups as a critical premise in designing mental health intervention programs. The concept of SOC can influence some psychotherapeutic modalities and psychological counseling approaches. A hybrid form of psychosocial support that allows for multidisciplinary professional intervention is likely to be effective in groups of health professionals, which may include the next steps.

- *Psychological evaluation* of the psychological climate, levels of burnout, psychosocial stress and distress (10, 40), SOC, and GRR accordingly co-produce a local model of vulnerability and resilience (41)[1].
- *Local training* and counseling in groups of managers and healthcare employees for interactive discussion and assessment of suffering, SOC, GRR, and subjective mental phenomena experienced during pandemic, supervised by a multidisciplinary team.
- *Multidisciplinary framework can potentially benefit from mentalization-based treatment (MBT) strategies*, which share common constructs from SOC. Therapeutic competencies and skills of treatment based on mentalization require not knowing (essentially acceptance of uncertainty) genuine and inquisitive therapist stance, support and empathy, clarification, exploration, challenge, affect focus, and relationship (42, 43).

[1]Generalized resistance resources are biological, material, and psychosocial factors that make it easier for people to perceive their lives as consistent, structured, and understandable. Typical generalized resources are money, knowledge, experience, well-being, healthy habits, commitment, social support, cultural capital, intelligence, traditions, and vision for life. Access to them increases the opportunities to coping with life's challenges and creating coherent experiences, i.e., strengthening the SOC (13).

CONCLUSION

This study has delivered clear evidence about the association of constructs and measures underlying SOC and GRR as determinants of burnout in healthcare professionals. In our perspective, a guideline informed by evaluation of those factors can motivate MBT as a flexible and innovative strategy for psychosocial support aiming at the healthcare specialists in the COVID-19 era.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by National Ethics Commission of the Bulgarian Association of Health Care Professionals. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

The study design was created by KS. The implementation of the study and the data analysis were performed by KS and DS. KS wrote the original manuscript of the article. DS reviewed and edited the manuscript. All authors have a coordinated contribution and have approved the submission of the article.

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CASE REPORT
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Case Report: A Case Study Significance of the Reflective Parenting for the Child Development

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There are studies that connect the "child" in the past with the "parent" in the present through the prism of high levels of stress, guilt, anxiety. This raises the question of the experiences and internal work patterns formed in childhood and developed through parenthood at a later stage. The article (case study) presents the quality of parental capacity of a family raising a child with an autism spectrum. The abilities of parents (the emphasis is on the mother) to recognize and differentiate the mental states of their non-verbal child are discussed. An analysis of the parental representations for the child and the parent–child relationship is developed. The parameters of reflective parenting are measured. The methodology provides good opportunities for identifying deficits in two aspects: parenting and the functioning of the child itself. Without their establishment, therapy could not have a clear perspective. An integrative approach for psychological support of the child and his family is presented: psychological work with the child on the main areas of functioning, in parallel with the therapy conducted with the parents and the mother, as the main caregiver. The changes for the described period are indicated, which are related to the improvement of the parental capacity in the mother and the progress in the therapy in the child. A prognosis for ongoing therapy is given, as well as topics that have arisen in the process of diagnostic procedures.

Keywords: traumatic experiences, emotional bonding, autistic spectrum disorder, family system, reflective parenting

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INTRODUCTION

Attachment theory focuses on parent–child attachment and the effects this relationship has on the child's personality, interpersonal skills, and its capacity to form healthy relationships with adults. According to Bowlby (1969), parents who are approachable and responsive allow their child to develop a sense of security, thus creating a sound basis for it to learn about the world. The capability of parents to verbalize the feelings and experiences of their child through conversations, reading stories or fairy tales, commenting on everyday situations develops the skills of mentalization in the child (Ханчева, 2019).

In mature age, the ability to mentalize depends on the emotional load of the interpersonal situation. Optimal mentalization implies integration of cognitive knowledge with insights into the emotional world, which allows a man to see more clearly and achieve "emotional knowledge" (Allen and Fonagy, 2006).

The processes of mentalization can be influenced by the "heritage" that is passed down through generations. In their life experience, individuals operate and make their choices not being aware that they repeat the history of their ancestors. In part, these complex relationships can be seen,

felt, or anticipated. They are experienced as elusive, insensible, unnamed, or secret, and may leave traumatic traces (Kellermann, 2001).

Tisseron (2011), associates the process of transmission of traumatic experience from generation to generation with three types of symbolization of experience: affective/sensory/motor, figurative, and verbal. If the event is symbolized in just one of the modalities, the results are associated with violation of mental life. The result becomes a distortion of the parent–child relationships, of their functioning.

The main psychopathological mechanisms that are activated in the transmission of mental content between individuals from generation to generation are associated with the identification and the projective identity. In this case of transmission through generations, insensible patterns, conflicts, scenarios and roles, ideals, and perceptions of the object are identified.

Children of severely traumatic parents reproduce scenes that their parents went through, trying to understand their pain, and at the same time establish a connection with them. They maintain family ties through the integration of parenting experiences. In the meantime, the parent seeks to teach his/her child survival strategies in situations of future persecution, thus passing on his/her traumatic experience (Baranowsky et al., 1998).

Wilgowicz (1999), introduces the term "vampire complex" describing the impact of unexpressed and insensible experiences passed down from generation to generation. These traumatic experiences form the unconscious connection between the generations which interferes the natural course of the processes of separation and individuation. This complex is associated with experience of the child who in its development turns out to be "locked" in the prison of the parental traumatic experience being neither alive, nor dead, or in other words, unborn.

Krystal (1978), describes the affective blindness of the principal caregiver as a characteristic of unprocessed traumatic experience (Den Velde, 1998; Коростелева et al., 2017). It is associated with incomplete integration of the somatic Self into the Self.

Ammon (2000), Hirsch (1994) describe in this context the "psychosomatic mother whose behavior is characterized by a lack of understanding of boundaries, intrusiveness, alexithymia, excessive concern for the physical functioning of her child, and at the same time "blind" to its psychic experiences." Hope et al. (2019) report that maternal depression and complaints of psychological distress are associated with an increased risk of trauma and hospitalization for the age 3–11 years, with the highest being in the period 3–5 years. In another study, Baker et al. (2017), reported an increased risk of burns, poisoning, and fractures in children aged 0–4 years raised by depressed mothers and/or such found in an anxious episode. Postpartum depression in the mother presupposes a high risk of burns, fractures, poisoning (Nevriana et al., 2020).

The relationship between parental attitudes and child development is influenced by unconscious dynamics of the intrapsychic world of mother and father (Tagareva, 2019). The ability of parents for reflexion and metacognitive monitoring allows them to recognize and regulate, to modulate, to turn into a symbolic (verbal) form the states they observe in their child. This gives an opportunity to comprehend and return in an understandable form to the child interpretation of its state based on understanding and empathy. If this capacity fails, the parent cannot give an adequate and meaningful interpretation of what is happening, because he/she himself/herself gets lost and confused in his/her own (threatening his/her integrity) experiences, and strong, meaningless, overwhelming emotions. The consequences of the lack of a "secure base" in the face of the caregiver may be associated with: low self-esteem, behavior of decompensation under stress, inability to develop and maintain friendships, trust and intimacy, pessimism toward themselves, family, society (Matanova, 2015). The low level of reflexion on the trauma and the unaddressed traumatic experience as the mother's internal position, affect, and are a risk factor for, psychopathology later in the development.

In addition, parenting skills can be further tested when raising a child with Autism Spectrum Disorders in the family. Therapy for this nosology needs to include both psychological work with the child and support for the parents, especially for the mother, who in most cases limits her social roles and devotes herself only to parenthood. This is a serious argument to seek and optimize approaches in clinical practice to support the family environment in which children with neurodevelopmental disorders are raised.

MATERIALS AND METHODS

This article is designed to present a case of a family with a child diagnosed with Autism Spectrum Disorder, where the non-integrated individual traumatic experience in the mother (N.) affects the quality of her reflective parenting.

The analysis aims to display the status of individual functioning and skills for reflective parenting, as well as the effectiveness of psychological intervention to revive and optimize the relationship mother-child. Although the functioning of the mother is the focus of the present study, an analysis of parenting and the father has also been applied.

The study is a pilot one and marks the start of a project lasting over time.

Diagnostic tools have been used for:

- Assessment of the development and functioning of the child according to the methodology of Matanova et al. (Matanova and Todorova, 2013). The methodology includes research of cognitive, linguistic, social, emotional, and motor sphere of functioning. Based on the identified deficits, it is possible to arrange a therapeutic plan for the child.
- Self-assessment scales for the study of the quality of the parental relationship and the formed internal work patterns (of affection and romantic relationship) of N. with her parents:
    - The Parental Reflective Functioning Questionnaire (PRFQ) by Luyten et al. (2017a,b). The PRF assessment screening tool provides additional evidence of the complexity and multidimensionality of the PRF (Luyten et al., 2009). It contains 18 items intended mainly for use in the study of PRF of parents with children aged 0–5 years. Three different aspects of PRF are evaluated on a 7-point Likert scale. Based on validated factor analysis, the authors identified three

theoretically consistent and clinically significant factors, each of which included six items: (1) prementalization modes (PM), (2) certainty about mental states (CMS), (3) interest and curiosity about mental states (IC).

- Assessment of emotional bonding in the parent–child relationship (PBI) Gordon Parker (Parker, 1979; Parker et al., 1979). The questionnaire consists of two scales which measure the variables "Care" and "Overcare" or "Control" by evaluating basic parenting styles through the prism of children's perception. It consists of two identical questionnaires of 25 items, one for each parent.

- Family sociogram to report its representation in the current family.

  - Version of Eidemiller and Cheremisin (Eidemiller et al., 2007). It is a drawing projective technique exploring several aspects: identify the position of the subject in the system of interpersonal relationships; determine the nature of communication in the family (direct or indirect). Dimensions: Number of family members who fall into the very circle; Size of the circles which mark the members; Disposition of circles (members) relative to each other (location); Distance between circles (members).

The case under study includes: demographic data of the family, anamnesis of the child (data obtained from psychological and medical research), prescribed therapy and progress, "The Time Line" (Stanton, 1992)—technique to retrieve significant events from the mother's history during the main stages of her development, located on the "axis of time," data obtained from her psychological research—hers and her husband's.

RESULTS

N. is married with one child at 2.6 years, with suspected Autism Spectrum Disorder.

Demographic Data at First Visit

Mother (N.)—age: 36 years, education: higher, occupation: technologist.

Father (K.)—age: 39 years, education: higher, occupation: technologist.

Now, the mother is taking care of her child. Only her husband works. They live alone in a small town. The child is separated in his own room.

The child—bears his father's first name. According to parents: does not speak, does not eat independently—"He opens his mouth a little," walks on tiptoe, does not play with other children, does not obey to commands, gets tired easily. The child attends the nursery until noon (on the recommendation of the director of the institution: "He does not eat") and the Municipal Center for Personal Development. A social pedagogue works with him.

Data for Assessment of the Child's Development

The child was carried to full-term, born from a second, pathological pregnancy of the mother, laid in bed to avoid miscarriage in the first months. He had a protracted jaundice, which passed after a year and a half. He was not breastfed.

After a consultation with a psychologist, dysfunction was found in the following areas: Sensory: the child does not hold pelvic reservoirs, shows behavior of sensory hunger—needs intensely sensory stimuli; *Motor development:* with evidence of late walking, the child steps on toes; *Cognitive processes:* the child has not yet formed a body schema, he tends to suck the thumbs of his lower limbs; he still explores the objective world through oral modality; passivity regarding the choice of a toy if it is not in his filed vision; he does not play with his toys as intended; *Emotional and social functioning:* he is easily separated from the adult; the emotional expression is poorly differentiated and is played through the body by waving hands; lack of social interest; interaction is possible after prolonged sensory stimulation. *Language development:* he vocalizes; does not respond to his name.

During the study, the child is calm, passive. When coming into interaction, he retains his interest in the adult, but without any initiative to develop it further.

Electroencephalography was performed, in awake state and with open eyes, which displayed mixed main activity: of diffuse beta waves, and tetha waves 4.5–5 Hz, in the anterior areas: sporadically slower waves 3–4 Hz.

The child was prescribed a therapy with psychologist with live setting twice a week. The therapy with the parents was once a week. It started online prior to the beginning of the therapy with the child due to COVID-19 quarantine. Twenty sessions were held with the child, i.e., work continued for 5 weeks (with setting twice a week). The therapy includes psychological work with the child in the main areas of functioning, established as therapeutic lines of the conducted diagnostics. Ten sessions were held with the parents and the mother. Two of the sessions were held with the parents. The following were studied: their functioning through the different subsystems: marital, parental, child–parental; difficulties in raising a child with an autism spectrum. It was found that the family system organized its resource for therapy only for the child. They realized that their well-being was important for their child's development. The marital subsystem was in the background. A session was held with the father, in which his role as the Third Significant in the child's life was discussed. Seven sessions were held with the mother. In them was unfolded her personal story through early experience, child–parent relationship, main topics of growing up, intimacy, parent–child relationship with her child. The therapy is going on.

Progress of the Therapy With the Child

Decrease of sensory hunger, no tactile simulation is required to activate the child to study the objective reality; *General motor skills:* reduced toe walking, except in moments of agitation, he walks on a full step on a sensory path. The child jumps on tiptoe, climbing stairs is easier than getting down; *Fine motor skills:* improved grip (small toys, sticks, without clenching them in the fist); *Cognition:* recognizes himself in the mirror, experiments on dropping toys (primary circular reactions).

Still uses oral inspection of some toys, beginnings of a play by designation (zone of proximal development). The active choice of toys is in progress, he explores freely the specialist room. Object constancy is formed, he seeks an object which he has played with. Lively, interesting. *Emotional development:* he expresses his joy by shouting and laughing, rejoices when imitated. Expresses anger. Attempts to manipulate by imitating crying. *Language development:* sporadically pronounces syllables, still does not respond to his name; *Peculiarities:* likes objects with small holes and pays lasting attention to them. He enters the oral-sadistic stage, bites toys, and gnaws some of them. Learned helplessness.

Time line of N.

Facts from family history:	The maternal grandfather: violence, anti-social behavior, alcohol, suicide; The mother: eyewitness of domestic violence; parenting to her younger brother. Lack of communication with the family of her father. Born in a two-parent family, after attempts of many years of her mother to get pregnant. She has a senior brother, who was adopted.
Childhood	*About her mother:* Her memories of her mother are associated with neglect, emotional alienation, austerity. According to her mother, N. was a meek child, she did not create any "problems." She talks about her in anger. "No hugs, no kisses. There were no songs, no fairy tales."; "My mother meddled into everything."; "She was calling my friends."; "She talked to my female teachers when my first cycle appeared in third grade." Shame; "She was strutting with in front of the whole village."; "Because of you, your father passed away." Guilt. Her mother was trying to impose her own pattern of behavior. For this reason, now that N. falls in an unfamiliar situation, she feels insecure and embarrassed. *About her father:* According to her, her father was the warmer person, emotionally. She did not receive any praise from him either: "He did it silently." There are no specific memories of him, as well as no connection with any paternal relatives. "He was very calm and supporting." She refers to the age of 4–5 years. It is difficult for her to follow the chronology of her experiences.
Adolescence	*Self-identity:* heavy menstrual cycle. *Experiencing shame* before the teachers and the class from her first menstruation, after her mother's intervention. *Friendships:* her mother interferes in her choices. She was forced to make choices impossible for her life experience on behalf of her mother (abortion of the mother).
Romantic relationship	6 years of unrequited love, before her husband. Her mother again interfered in her choices.
Parenting	Half a year after a suffered miscarriage she became pregnant again. She refused to breastfeed her child: "I had no desire to breastfeed him. I can't imagine this connection between us." Her mother insisted on breastfeeding, but she refused in protest. Through the unprocessed mourning, she presented herself as an overprotective parent. The child began to walk later. He has been protected from climbing stairs for a long time. As a result, he did not develop his motor skills. His eating was difficult and selective: "he refuses to chew but chews a banana." He was fed in front of the TV. Eye contact was unstable. N. tried to remove the diaper by placing his pot among the toys during play and urged the child: "Come on, pee!." She put him to sleep after a long intense swing. There was no established daily routine. "My child does not want anything. He has no desires. It is my fault that my child is like that." That was her motivation to start therapeutic work for her. *She describes the emotional connection with her child as:* "Strong" —"it is difficult to fall asleep without my presence"; "Joy"—"when he sees me, he comes to hug me"; "He associates me with eating"—he turns to me more often when he is hungry—mainly I feed him. So far no one else has fed him. When he sees me, he says "Am-am" *Wishes for the future of her child:* "To have a good education—to choose for himself. Let his choice be important, not we to…"; "To have good friends around him" "To have the quality to judge people—what is good for him, what is wrong. To be able to sift through the good"; To be safe and sound." "if it can be sports, to dance, no matter. He is very attracted to dancing: dance, music, mathematics."
Personality	*Phobic—iatrophobia/*castration anxiety (fear of body damage, especially sexual mutilation)*—ashamed to go to a gynecologist (at the age of 26 she visited a gynecologist for the first time due to reproductive dysfunctions), separation anxiety: "I always held her hand (my mother's)," social anxiety; "People are not what I imagine them to be." Distrust, suspicion.* *Traumatic—She has not freed herself from the trauma in the past: "Looking at him, how timid and insecure he is, as if I were looking at you as a child." "I shivered."*
Medical history	at birth, "hormonal crisis of the newborn"—(*vaginal bleeding due to certain endometrial hyperplasia as a result of the intrauterine exposure to maternal estrogens and the subsequent postpartum fall of their levels*). at the age of 4 fracture of the left leg; at the age of 13 cracked beard from falling; at the of 10 "I struck dumb" from poor grades, she was forced to call her stepfather "dad"; "fainting-fits" at the age of 13, 14, 29 in public places. *Presently*: migraine pain, tightness in the throat, impaired hormonal balance in the initial stage (she takes L-Thyroxyn).
Losses:	*The father* at the age of four. She had a severe fracture of her left leg, and as she recollected, she was sitting alone on a carpet in an apartment when he "died outside." Her older brother, who had been adopted, informed her of the loss, forbidding her to speak because he was threatened by their mother that if he revealed the secret, she would be angry with him. She had to be hospitalized for 20 days while her mother and brother handled the transportation of the body and the funeral of her father in Bulgaria (the event occurred outside the country). The reason for the absence of her relatives was not explained to her. *Natural abortion.* After many years of long attempts to conceive, she lost her fetus in the fifth month ("They saved my life instead of the child's life.") The two parents were incompatible. Her mother stated: "You will not get pregnant! You will bring a sick child into the family."

Data From Performed Psychological Studies

Child–Parent Relationships and Internal Work Patterns for Oneself and for the Other (PBI)

The results of the self-assessment questionnaire on emotional closeness in the parent–child relationship with the mother indicate:

> With reference to the relations with her mother: high results along the dimension "Overcare/Control" (24 points) and low results along the dimension "Care/Concern" (22 points). From these results it is evident that the mother in childhood is represented as emotionally cold, indifferent, and careless, and at the same time imposing control, intrusiveness, and excessive contact, infantilizing, and hindering the autonomy of N. as a child.
>
> With reference to the relations with her father: high results along both dimensions "Overcare/Control" (32 points) and "Care/Concern" (25 points) what relates to a representation of the father's character as emotionally restrained in his behavior, but at the same time controlling, intrusive, and in attitude which is highly infantilizing and hindering the autonomy of N.

The model of adult attachment, proposed by Bartholomew and Horowitz (1991), related through the Parker quadrant, for the emotional closeness of a child–parent shows that N. has an active negative internal work pattern for herself along the dimension of "anxiety" and is associated with vulnerability to separation, rejection, or insufficient love. The work pattern of the other is negative, associated with fear of intimacy and social avoidance, i.e., along the dimension of "avoidance." The attachment style corresponds to style B avoidant, subcategory cowardly avoidant.

In her husband, the internal work pattern is ambivalent. The mother's character from childhood is represented as emotionally restrained and controlling, while the father's is emotionally indifferent, however encouraging autonomy.

Family Sociogram

As a child, she presented inadequate, low self-esteem, and anxiety, an experience of emotional rejection and isolation. The father was the most significant figure, he was more emotionally close. This is also observed in her relations with the maternal grandmother. The size and thickening of the circle, which it is represented with, shows high levels of intrapersonal neuroticism. There are too many figures in the circle: apart from her four-member family, mother, father, brother, and she, it also includes her maternal grandmother and her uncle, the brother of her mother, as the division is in two camps on the basis of proximity-distance: her mother, uncle, and brother are found at one end of the circle, and the other end is occupied by her, her father and grandmother.

As an adult, prior to the birth of her child, her mother was also included in the circle which is associated with a tendency to unsatisfied needs from her.

After the birth of the child, the hierarchy is maintained and there is enough space between the members of the family now.

Through the life cycle of the family and the separation/individuation, this crisis must be lived through and integrated as a new experience. The stages show that in her childhood N. did not have a sound family model, the boundaries between the parent family and the maternal family are permeable. The above configuration could be interpreted as the presence of triangulations in the family system, and as well as intergenerational ones.

Within the romantic couple, in the period of the dyad, N. presents herself and her husband in a line, as the lower part of the test field includes the figure of her mother depicted by a smaller circle. This could be interpreted with the still insufficient density of the family boundaries. Establishing family boundaries (internal and external) is an important task at this stage of family life, as well as creating an optimal balance of proximity and distance; distribution of the roles in the family; establishing the hierarchy; negotiating family rules; coordination of future life plans, as well as joint understanding and acceptance.

It is also confirmed by the results of the interpretation of the family sociogram with the father as well. As a child he presented himself with inadequate, low self-assessment, he was hierarchically placed next to the mother's figure. Prior to the birth of the child, he presented unsatisfied needs from his parental family: no separation, the boundaries between own and native family are permeable. In the present one, the experience in the reality of what is happening is available. There is no differentiation between the relationships, and dissatisfaction with them is present. The child is put in the place of unsolved contradictions.

Reflective Parenting PRFQ

In all three dimensions, the results show values above the average as IC ("interest and curiosity about mental states") is leading—85.5%. It is associated with intrusive hypermentalization, i.e., she is difficult to regulate and interpret her own mental states when faced with her unregulated, difficult child. As a sequence, an inadequate reaction in response to his affective signals by the mother is provoked, as well as the presence of low levels distress tolerance. In hypermentalization as a process, there is a tendency to understand or explain mental dynamics based on complex logical constructs, sometimes abstract, notional, and without pragmatic benefit. Its extreme forms are characterized by autistic, groundless fantasizing.

The possibilities for reflective parenting with the father show increased trends in the dimensions of IC ("interest and curiosity about mental states") and CMS, which is associated with enhanced hypermentalization, as in the mother, in the cases when she does not recognize the vague mental states of her child, however, here is also a desire to understand.

DISCUSSION

Mother

In her story N. unfolds a picture of the transmission of a traumatic experience of rejection/avoidance. The experience of emotional neglect has formed a negative notion of the Self. Through her anger, she repeats the model of her mother, not realizing that her own model is possible.

N. demonstrates a personal style in which fear and anxiety constitute a centrally organizing dimension. Reported phobias are associated with behaviors of shyness, restraint, aptitude

for low self-esteem, indecisiveness, uselessness, and emotional inhibition. It is difficult for her to **identify** anxious thoughts, as well as to **connect** them with their triggers from reality, to **master** them and to allow a **"decentralized"** point of view on anxious situations, what might be the birth and upbringing of a child with arrested development. Avoidance behavior is associated with a remarkably high level of distress and a low level of long-term adaptation. (Mikulincer and Shaver, 2012; Lingiardi and McWilliams, 2017). In cognitive theory, this feature (functioning through fear and avoidance) is considered an excellent example of an early maladaptive self-assessment scheme. The theory of mentalization conceptualizes this as an implicit (automatic) mentalizing deficit. In addition, there are difficulties in understanding the mind of others (Dimaggio et al., 2007; Lampe and Malhi, 2018). Another major deficit of mentalization is their weak affective consciousness (Steinmair et al., 2020).

Mother–Child Relationship

The relationship with her child is not objective. There is no construct to include references to the related problems outlined in her child. N. includes projective identification against guild as a protective mechanism related to her wishes for the child's future. The relationship with her child is idealized, in her aspiration and strong desire for love, characteristic of her personal structure. In this case, the child serves the mother's deficits and is not perceived objectively. The projection also supports this structure in her fear of rejection. She is parenting by satisfying the child's physical needs without giving the father the opportunity to be introduced to the child's mental life. And, although the projection is central to the father, in describing the relationship with the child, their shared experiences are related to "curiosity," "play." The mother's fear of loss, of rejection is the result of the unprocessed mourning. It could be also thought of splitting through the non-integrated image of the early figure of attachment. Presently, she is still demonized, and the father is idealized.

The Child

In the described period the child's study of objective reality is activated. recognizable in a mirror. Demonstrates the beginning of a game as intended, expresses joy in interaction, anger. Attempts to manipulate through imitation.

Parent Couple

The possibilities for reflective parenting in both parents are associated with increased hypermentalization, and the father has a desire to understand the mental states of the child.

Married Couple

N.'s internal working models are of a cowardly avoidant style (her husband's internal working model is ambivalent). The level of adherence to therapy is low, a high level of symptom reporting, and a low level of basic confidence. Those who have a negative BPM for themselves and for the other both want and fear of intimacy in the couple. This also presupposes the future occurrence of crisis in N. married couple.

Family System

In families such as the above described, raising a child who is unable to express their own needs in a conventional way, unresolved conflicts from the beginning of their life cycle, can escalate and lead to marital dissatisfaction and dysfunction throughout the family system.

CONCLUSION

The presented integrative model of psychological support in a family raising a child with an autistic spectrum outlines a picture of improvement in two lines: in the child and in the child–parent relationship. In mother, the process of disidentification, the formation of the transmission of the object, the separation of what has been transmitted to it, allows the history of the past to be restored, therefore gives more freedom to the individual in the shaping of the individuality. Currently, the inserted traumas, even if not one's own, in the subjective experience of conflicts and fantasies, allow to integrate this experience and to turn it from destructive to structuring.

If the traumatic event is mentally processed, symbolized, and inserted in the individual memory as an experience, it receives the status of the past, of memory. It is passed on to generations not only as the content of traumatic experience but also the aptitude of its mental processing and coping with it, which affects the individual development of the child.

N.'s feedback on the therapy so far: "He showed it to us, but I, my fault, my mistake, was that I did not see it." She finds that now is more observant.

DATA AVAILABILITY STATEMENT

The datasets generated for this article are not readily available because personal data. Requests to access the datasets should be directed to Zlatomira Kostova.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin. Written informed consent was obtained from the individual(s), and minor(s)' legal guardian/next of kin, for the publication of any potentially identifiable images or data included in this article.

AUTHOR'S NOTE

The article presents a research perspective on the possibilities of parental capacity, through the integration of different approaches to understanding human suffering in clinical psychology.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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REVIEW
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Adult Attachment Representations and Body Image

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In modern literature, the body image is interpreted as a multidimensional construct, which is considered important for both individual development and quality of life. The body image is central to the self-concept and has important consequences for mental functioning. A negative body image can result in adverse psychosocial consequences for both sexes. For a long time in the professional literature the study of socio-cultural factors on the development of the body image has prevailed. This line of research creates social constructivism, in which the earliest attachment relations are eliminated, and instead the idea is suggested that external sources have a direct influence. The present text proposes an approach to the body image as a development construct, arising and developing in the attachment relations, related to the provision of security and protection. Attachment disturbances, as well as attachment disorganization, are defined as the inability to provide security and protection. Attachment relationships in connection with the development of body image develop through the mechanisms of reflection, sensitive responses to the child's signals and synchronous relationships. In the first months of human life, the attachment needs are first and foremost the needs of the body, which are satisfied by the responses of the primary caregiver. The topic of body image discusses attachment disorganization, the understanding of attachment trauma, and the "enactment" of the loss on the body's territory. Trauma always involves loss. Griefs that cannot be mourned and injuries that cannot be represented seem to be central to understanding the body's problematization.

Keywords: attachment, attachment disorganization, body image, representations, trauma

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INTRODUCTION

In the modern literature, the concept of body image is perceived as a multidimensional construct, which refers to: (1) the individual's perceptions of their body; (2) the disposition/attitudes toward these perceptions; and (3) visible behaviors in response to these perceptions (Cash and Labarge, 1996; Cash, 2004a; Grogan, 2008). Body image can be thought of as individual experiences of the physical self (Cash, 2004a). There are two main aspects that include attitudes toward the body self-image evaluation and investment. Affect refers to the emotions associated with body image in specific situations. The body image has long been considered important for both individual development and quality of life, although it represents only one aspect of self-conceptualization (Sandoz and Wilson, 2006). The body image is central to the concept of the self and has important consequences for mental functioning. A negative body image can result in adverse psychosocial consequences for both sexes – eating disorders, depression, social anxiety, sexual dysfunction, suicidal tendencies, low self-esteem, and low quality of life (Cash, 2004b; Cash et al., 2007; Crow et al., 2008; Zaitsoff and Taylor, 2009). High levels of body dissatisfaction and weight concerns are

common in adulthood. Dissatisfaction with one's body, eating disorders, and extreme methods of weight control are strong risk factors for the development of eating disorders (Gutiérrez-Maldonado et al., 2010). Bruch (1962) also noted that a dysfunctional experience of the body image is a central aspect of anorexia nervosa. Body image disorders are now considered a key element in eating disorders and are part of the criteria for diagnosing anorexia and bulimia nervosa.

In recent decades, research in the professional literature has been based on the understanding of the development of body image, determined primarily by the influence of social factors. Thus, for a long time in the literature, the study of the influence of sociocultural factors on the formation of the body image has prevailed, which has led to social constructivism, in which the earliest attachment relations are eliminated, and substituted with the idea that external sources have direct influence. The body image should also be considered in the context of internal representations and the set of fantasies and meanings and understandings of the body, its parts, and functions (Krueger, 1988). In this sense, the image of the body can be thought of as a dynamically and developmentally emerging mental representation of the bodily self. The bodily self and body image are developmental processes that undergo gradual changes associated with maturation (Krueger, 2004).

DISCUSSION

The mother defines her baby's body in the systemic and relationship-based matrix of attachment – providing care. This definition of the body also occurs in the tactile delineation, reflection, and resonance of the internal and external bodily experiences. The theory of attachment is considered as part of the theories of object relations. The shared understanding in these theories is that the basic emotional motivation in human life is the desire to form and maintain relationships with others. The purpose of these relationships is related to survival, the pleasure, and satisfaction that these significant others can provide (Steele and Steele, 2005). One of the main goals of John Bowlby in formulating the theory of attachment was to create a new model of developmental psychopathology that emphasizes the role of real-life events as relevant to some aspects of personal development and mental health (George et al., 1999; Matanova, 2015a,b). In his view, starting from infancy, individuals construct representational models of attachment (internal working models – IWM), which are based on their real relationship with the figure of attachment (George and West, 2001). Bowlby's understanding focuses on the ideas of environmental failure and traumatic experiences related to the impossibility of *providing security and protection*.

We approach the development and violation of the image of our own body in a new way. The topic of body image is not new at all, but we believe that the approach we take to it is new. We consider the concept of body image as a developmental construct, arising and developing in relations with significant others. The development of the body and the image of it are mostly object-related. The approach we have taken in discussing the topic refers and is limited to the relations of attachment – their development and violation. Disorders of attachment, as well as its disorganization, are defined as the impossibility of providing security and protection. Relationships of attachment in connection with the development of body image develop through the mechanisms of reflection, sensitive responses to the child's signals, and synchronous relationships. All these interactions are accepted to be the foundation of security.

Numerous studies discuss adult attachment style and attitudes toward the bodily self, but these studies do not belong to the developmental understanding of disorders of body attitudes. They do not clarify the question – whether the style (attachment style vs. attachment representation) of attachment is the cause of disorders in body image. The results emphasize the social value of understanding the image of the body in relation to the processes of *social attachment*. For their part, feelings about one's own body reflect developmental attitudes more than the styles of social and romantic attachment adopted by the self.

The early experience of security in attachment relationships is critical to the mental integration of traumatic events (Solomon and George, 1996; George and Solomon, 2008). This internalization of the experienced security in the relationship allows the individual to build an inner safe shelter for themselves. Insecure attachment (avoidant and ambivalent) stimulates the development of a "false bodily self" (Lemma, 2015). In the first months of human life, the needs of attachment are first and foremost the needs of the body, which are satisfied by the responses of the primary caregiver. These relationships, according to Krueger (1988), organize and give meaning to the bodily self. Relationships of attachment and subsequent models (attachment patterns) are the primary and central basis from which the physical and mental selves develop and integrate.

Children who are classified as anxious (ambivalent or avoidant) often have mothers who show difficulty and resistance to establishing close physical contact. Children with a secure attachment to their mothers actively seek physical comfort from them, after a short but stressful separation, unlike avoiding children.

The topic of body image discusses the disorganization of attachment, the understanding of the trauma of attachment, and the "playing out" of the loss on body territory. George and West (2012) attribute the trauma of attachment to all experiences that instinctively signal a threat to break the attachment relationship or signal a danger to the self. Irreversible separation, according to Bowlby (1980), is loss as a manifestation of the trauma of attachment. From an evolutionary perspective, for both children and adults, restoring intimacy with the figure of attachment is the only solution to relieving fear. In this sense, the losses – real or symbolic, which cannot be mourned and the traumas, which cannot be represented, seem to be central to the understanding of the body's problematization (eating disorders; voluntary cosmetic or esthetic surgery). Trauma always involves loss (George and West, 2012). These losses may be too real and literal, such as the loss of a loved one, for example, or they may be more symbolic, such as the loss of identity, meaning, or hope (Lemma and Levy, 2004; Lemma, 2015). A traumatic experience affects not only the ability to connect, to feel, but also the ability to think symbolically.

The lack of symbolic functioning leads to a reduction in the ability of the self to know and think about itself, as a separate agent, as an agency of self. This makes it more likely that the body will be used to express what cannot be represented.

In a preliminary study (Bonev and Matanova, Unpublished) the data show that disorganized people compared to organized (safe or insecure) experience more anxiety about their body and are more likely in a consultative and therapeutic context to problematize their body (e.g., dissatisfaction with appearance; symptomatology of eating disorder, modification of the body surface – cosmetic surgery). People who invest more (psychologically) in their appearance, are anxious about gaining weight and are sensitive to the presence of various physical symptoms are more likely to have had caregivers in their history who could not provide them with the experience of sufficient security. Relationship security implies lower levels of anxiety about weight and less dysfunctional behaviors, such as restricting eating and dieting. The specifics of the relationship of attachment are related to the development of attitudes toward the bodily self and its image.

Those who problematize their bodies at the level of appearance, weight, investment in a healthy lifestyle, suspicion of the presence of physical symptoms, have not experienced a relationship with the primary caregiver which could provide sufficient relief of physical and mental sensations and allow them to process the affect and thus to desomatize it. In this sense, it seems that the lack of sensitivity, spontaneity, responsiveness, and pleasure in the relationship of attachment leads to a stronger investment in the bodily self. These elements of sensitivity, spontaneity, and responsiveness underlie the development of mentalization, in which the representation of affect also participates.

When this representation of affect is possible, a memory trace is formed in the baby's brain that connects the bodily experience with the image of the emotion transmitted by the mother, forming a mental representation of the emotion corresponding to the bodily experience. When there is no representation, then the affect from the experience cannot be desomatized and is unloaded or communicated through the body.

It also seems that the experience of fear associated with attachment, which is the basis of disorganization, is related to the more tangible problematization of the body. According to Bonev and Matanova (Unpublished), the disorders are to some extent related to the behavioral dimension of the body image, but these behaviors in the context of the bodily self are compensatory, aimed at overcoming feelings of anger, fear, vulnerability, inadequacy, or helplessness. Except in the context of "failed protection," bodily self-disorders in disorganized people seem to be related to the inability to achieve effectiveness in early childhood (around 4 months of age) – the behavioral dimension "capacity to act" (George and West, 2012). These assumptions are based on existing data (George and West, 2001, George and West, 2011, 2012), in which disorganized people cannot cope with the resulting dysregulation in any way. One of the possibilities for resolving (coping with) dysregulation is the activation of the capacity to act, which allows a person to make a constructive change or to move away from the place of dysregulation, to protect her/himself. The basis for the development of this capacity is precisely this experience of the effectiveness of actions, i.e., this is the pleasure of the effect – the pleasure of being the cause (the agent of the action), and not so much with the actual result of the action.

Disorganization of attachment is a violation of the ability to construct dialogue – internal and external, to share experiences with "another who can tolerate and retain what is shared" (Lemma and Levy, 2004). This impossibility of secondary representation of experiences makes it possible for the body to express what there are no words for. In this regard, disorganized people problematize their body in several dimensions. These dimensions are associated with concern for the health of the body; anxiety about weight gain and subsequent dieting; behaviors controlling health and behaviors aimed at improving appearance.

The study of dyadic relations makes it possible to study the processes of projection and introjection that form the self. It is known that the mother's face is the first emotional mirror for the child (Winnicott, 1967; Lacan et al., 1977) and what it reflects is the "reality for the child" (Krueger, 1988). In this way, reciprocity and synchronicity in relationships seem central to understanding body worries. In cases where the relationship is based on traumatic connection and experiences of rejection, there is emotional sterility in which there is no room for experiences and emotions. The lack of synchronicity between the signals given (by the child) and the answers to them (from the figure of attachment) define the care in these relations as basic and functional, the reciprocity and the pleasure of the relationship are missing, which hinders the representational integration of experiences, which in turn violates recycling capacity.

Appearance orientation distinguishes organized from disorganized attachment groups because investments in appearance represent an attempt at "representational reunion" (Bonev and Matanova, Unpublished) and are an attempt to achieve synchronicity and reciprocity in the representational world. These behaviors are a way to become a desired and loved object. To create an "ideal appearance that will guarantee the love and desire of the other" at least in your own mind (m/other) (Lemma, 2010).

This topic is extremely important because we are embodied living organisms and the development of an internal safe basis begins with the body's contact with the other's body, which can provide security and containment of all early and threatening experiences. Because development – physical and mental, is an inseparable connection, which literally means learning how to move through life. The complex system, collectively known as the body, is an expression of the security with which we walk through the world (Shafir, 2018). And the way this body is invested, in the earliest moments of life, will determine the way we will move in the world – mentally, physically, and spiritually.

AUTHOR CONTRIBUTIONS

Both authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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In-Session Reflective Functioning: Relationship With the Presence and Depth of Work on Conflict or Personality Functioning

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Mentalizing, conceived as the capacity to attribute intentional mental states as implicit or underlying behavior of an individual or others, has gained interest within psychodynamic clinical research due to its potential as a change mechanism. Variations and qualities of mentalization have been studied through reflective functioning (RF). But only few studies are analyzing it throughout the psychotherapeutic interaction, identifying its level for therapists and patients. In contrast, brief psychodynamic therapy has a long tradition for establishing a focus to be worked upon. Lately, a multischematic focus has arisen, considering both conflict and personality functioning focuses as key elements on successful psychotherapies. This study aimed to identify mentalizing manifestations of patients and therapists through change episodes of one successful brief psychodynamic therapy and establish the relationship between these mentalizing manifestations and the type and depth of the therapeutic focus being worked on (conflict or personality functioning). Only 37.5% of speaking turns were able to be coded with RF; 77% of these had moderate to high RF and 22% had low or failure RF. The patient had 91% of low or failure RF, while the therapist only had 9% of low or failure RF. As for moderate to high RF, patients had 39%, while therapists had 61%. The patient showed a similar number of low or failure RF interventions and moderate to high RF interventions in conflict episodes. Meanwhile, the therapist only performs moderate to high-level RF interventions. In episodes in which personality functioning is worked on, both patient and therapist show a greater presence of interventions of moderate to high levels of RF. Finally, mentalizing interactions and non-mentalizing interactions were found on segments with conflict, and only mentalizing interactions were found on personality functioning segments.

Keywords: single case, therapeutic focus, reflective functioning, psychotherapy process, episodes of change

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INTRODUCTION

Authors from psychoanalysis (e.g., Luborsky, 1984; Green, 1975; Horowitz et al., 1993a,b; Green, 1996) postulate that the clinical approach on the psychodynamics of patients must be understood based on two different central thematics (therapeutic focus): intrapsychic conflicts and malfunctions or deficits in functioning (Killingmo, 1989, 1990; Schüßler, 2004; Dreher, 2005, 2006; Sugarman, 2006). Moreover, any

work on the psychodynamic process leads to a better understanding of the contents of the mind. Consequently, enhancing mentalizing is an essential mechanism through which psychotherapy works (Choi-Kain and Gunderson, 2008) and becomes a key concept for understanding change. It is then clinically relevant to identify the interventions of the therapist that improve the ability of the patient to reflect and become aware of the relationship between their own mental states and behaviors. Particularly, to identify them in those segments in which conflict or personality functioning is being worked on, expecting that there will be differences between them in the mentalization quality of the participants.

In the first place, authors situate the concept of mentalization within the psychodynamic tradition, in what they call "a doubly configured epistemic space," the empirical perspective of developmental theorists with the clinical understanding of psychoanalytic theorists (Fonagy, 1994). The term was initially derived from the philosophical tradition of authors such as Dennet (1978, 1983), Wittgenstein (1953, 1969), and Davidson (1983) and is then taken up in the field of psychology by theorists of mind and metacognition, who explore the way it develops in the first years of life (Baron-Cohen et al., 1985). Later, Fonagy et al. (1991) attempted to demonstrate that infant understanding of mental worlds of an individual and others has profound dynamic implications for the organization of the self (Fonagy et al., 1991). As an antecedent of what will later be defined as reflective function, Fonagy et al. (1991) found the distinction between a *pre-reflective self*, referring to an immediate or unmediated experience of life and a *reflective self* or reflective function of the self that operates as an internal observer of mental life.

On the contrary, the therapeutic focus has also had an extensive theoretical development in the history of psychoanalysis (e.g., Malan, 1963; Sifneos, 1979). It can be considered the center around which psychotherapy is organized and a change mechanism itself (Balint et al., 1972; DeLaCour, 1986; Poch and Maestre, 1994; Scaturo, 2002). The identifying focus needs an initial dynamic formulation. Therefore, the focus is considered ideographic to each patient. One system that allows for the identification of focus is the operationalized psychodynamic diagnosis (OPD Taskforce, 2008), which considers focus as different specific areas that are significant for the psychodynamics of the patient and must be worked on throughout the process (Grande et al., 2004). Three focuses can be established with this system: dysfunctional relational pattern, conflict focus, and personality functioning focus. Works on conflict and personality functioning are relevant to this study since they are the most psychodynamic ones.

Conflict focus alludes to the work on those unconscious coalitions between motivational groups that leads to an elevated internal state of tension. It assumes that human behavior is constantly influenced by unconscious desires, thoughts, and representations. In OPD, conflict refers to a rigid pattern of experiences that, in certain situations, lead to the same pattern of behavior without the person being aware of it or being able to change it voluntarily (OPD Taskforce, 2008). The work on conflict is the closest to depth psychology, which aims at revealing unconscious conflicts, that is, making the patient aware of them and returning them to their responsibility are strongly oriented toward the psychoanalytic treatment technique, in the form of clarifications, confrontations and interpretations (Rudolf, 2002).

Personality functioning focus alludes to the observable manifestations of structural conditions (the actual use of capabilities; Dahlbender et al., 2006). It evolves around two lifelong tasks, the development of capacities for interpersonal relatedness and self-definition or identity, underpinned by functions oriented toward self-regulation and the relationship between the self and its internal and external objects. Focus on this area must look at those major vulnerabilities of the patient (see for more detail OPD Taskforce, 2008). Personality functioning as a goal of psychotherapeutic interventions is not systematically discussed in the literature. In Wöller (2001), supportive and interactional techniques for building these functions are mentioned. These interventions have also been proposed as a way to reinforce these same functions (Kernberg, 1999). Working on these vulnerabilities means fundamentally accepting and trying to accept the patient in the way they experience and act. This means that therapists must first respond to the concerns, questions, doubts and expectations of the patient and be more active, supportive, and affirming than, for example, during the work on conflict (Rudolf, 2002). Finally, the studies of Karlsson and Kermott (2006) and Katznelson (2014) suggest that brief therapies using supportive techniques would not promote changes in RF.

Process research on this subject (Mentzos, 1991; Dagnino, 2021) has shown that some segments of psychotherapy revealed a prevalence of the work on conflict focus, others on personality functioning, being almost complementary throughout the process. For relational pattern, its presence is almost stable during the process, considering it as an epiphenomenon. This complementarity was also seen during psychodynamic processes, finding that work on conflict occurs mainly at the beginning of the process, while work on personality functioning occurs toward the end of the process (Dagnino, 2012, 2021). Moreover, it is expected that during the work on conflict and personality functioning through the process, mentalization may be improved since these are the core themes for psychodynamic work. There is a need to understand how reflective functioning is enhanced on a micro perspective level and understand how the interaction between patient and therapist promotes this ability when conflict or personality functioning is being worked on.

Considering a form of social cognition, mentalizing has been defined as an imaginative mental activity (Bateman and Fonagy, 2012, 2019). It refers to the capacity to understand other people and oneself in terms of intentional states of minds (Fonagy et al., 2012), awareness of mental states, which includes "perceiving and interpreting the feelings, thoughts, beliefs, and wishes that explain what people do" (Bateman and Fonagy, 2019, p. 3). It is acquired in early childhood and is closely associated with attachment and affective regulation systems. Its presence and its failures or dysfunctions are the basis of some etiological models of mental disease (Linehan, 1993; Clarkin et al., 2006; Fonagy et al., 2015). There is extensive evidence that shows that patients suffering from severe mental disorders

to a greater or lesser degree display failures in their mentalizing skills. Thus, and in general terms, psychoanalysis promotes mentalization (Sugarman, 2006). Successful psychotherapies positively influence these skills (Levy et al., 2006a,b; Fonagy and Luyten, 2009). As a significant component of therapeutic action, variations and qualities of mentalization have been measured within the context of psychotherapy, confirming its role as a relevant factor of change (Bateman and Fonagy, 2006, 2012; Clarkin and Levy, 2006; Levy et al., 2006a,b; Luyten et al., 2015a,b; de la Cerda et al., 2019).

Furthermore, in close agreement with the findings of psychotherapy research, it has been advanced that mentalizing is a specific relational skill (Luyten et al., 2012), which is expressed through mentalizing in action, that is, the interactional and dynamic process in which each participant remains attentive to his/her mental states while at the same time being aware of the mind of other person (Allen and Fonagy, 2006). From this perspective, mentalizing can be thought of as a specific aspect of general regulation focused on a particular object: the mental states of the self and the other. It has been suggested that it recursively performs a double function: it is an emergent phenomenon of regulation with the other and at the same time contributes to or hinders the regulatory system, depending on its operational quality (de la Cerda, 2017; de la Cerda et al., 2019). From this perspective, it is possible to envision the function acquired by mentalizing in processes of reciprocal influence and self-regulation, such as the psychotherapeutic interaction.

Studies conducted in the psychotherapeutic process reported two types of interactions between patient and therapist, *mentalizing interactions* and *non-mentalizing interactions* (de la Cerda et al., 2015; de la Cerda, 2017; de la Cerda et al., 2019). A mentalizing interaction is observed when the patient increased their reflective capacity, which could be attributed to the interventions made by the therapist. On the contrary, a non-mentalizing interaction refers to when the patient decreases the quality of their reflective functioning.

Both the OPD approach and the mentalization approach postulate that psychoanalytic therapy centered on interpretation is the most appropriate tool for the work of unveiling unconscious conflicts (Fonagy et al., 1993; Rudolf, 2004). On the contrary, when facing deficits in functioning, the proposed work approach should be different, not centered on interpretation, but taking as objects those deficits and disturbances more actively (Bateman and Fonagy, 2004, 2006; Rudolf, 2004, 2007, 2010).

Only few studies were found that review the relation of mentalizing and conflict/personality functioning focus, and they were mainly on its relation with personality functioning. Müller et al. (2006) stated that the conceptualizations of both RF and personality functioning (OPD) are based on the assumption that the self is actualized in the process of developing relationships and, therefore, in the psychotherapeutic process. They can be understood as both pointing to structural diagnosis and rating psychic functions. However, they have different validity claims, RF from the framework of attachment theory and OPD personality functioning as integrating different psychodynamic theories as a product of clinical psychoanalytic research.

The approach of identifying RF during the psychotherapeutic process is a novel approach. The goal of this study, therefore, was to identify RF of both therapist and patient and evaluate them on segments where conflict or personality functioning is being worked on. The design was exploratory with the analysis of a single case. The aims were (1) to examine the quality of RF for both patient and therapist, (2) to find out whether there are differences on RF of patient and therapist during conflict/personality functioning segments and (3) to identify mentalizing and non-mentalizing interactions on both types of segments. Our hypothesis with respect to the objectives has several points: (1) we expect that there would be differences between patient and therapist on RF as previous research has shown; (2) we expect that on conflict segments, RF of the patient will be high since the work is on making the patient aware of unconscious conflicts; on the contrary, it is expected that RF will be low on personality functioning patients because the work is on those major vulnerabilities, through support interventions which lead to more regulation; and (3) with respect to mentalizing and non-mentalizing interactions, it is expected that on segments where personality is worked on, non-mentalizing interactions will be present, since support techniques are mainly used, which does not lead to insight.

MATERIALS AND METHODS

Design and Participants

This is an exploratory study with a qualitative approach. The study was based on a cross-sectional single case design: Qualitatively identifying conflict or personality functioning and the reflective function coding of each speaking turn of therapist and patients. Quantitative analyses were made through the scoring of each variable.

The case was selected from a group of therapies recorded on the postdoctorate research of one of the authors (PD). The pool of therapies was broad from individual to group therapy and from psychodynamic to cognitive-behavioral, each of them with different lengths. This case was chosen because it was the only psychodynamic-focused psychotherapy case. The need to choose a psychodynamic therapy case was related to the dimensions being studied, that is, mentalization and therapeutic focus. Both concepts come from a psychoanalytic perspective. Finally, this was a successful therapy, concluding from a self-report instrument evaluating well-being. This is a questionnaire that was answered by the patient before and after the process (Outcome Questionnaire, OQ-45.2, Lambert et al., 1996; Von Bergen and de la Parra, 2000).

As part of the project, both therapist and patient consents were obtained to use the material in subsequent research by the responsible researcher, and they were contacted again later to confirm approval. Authorization for using these data for this study was granted by the Ethics Committee from Universidad Alberto Hurtado, following the declaration of Helsinki (64th WMA General Assembly, Fortaleza, Brazil, October 2013).

The psychodynamic therapy selected consisted of 21 sessions. The material for this study was already segmented in change episodes due to the previous project, which were the ones

analyzed here. Change episodes are those segments in session in which there is an intensification of the process of change, culminating in a specific change moment (identified from a list of generic change indicators, see Krause et al., 2007). From the 21 sessions, 24 episodes of change were analyzed.

All of these 24 episodes were codified with the Focus Presence and Depth Scale (FPDS, Dagnino and de la Parra, 2010), which is specified in the instrument section. For each of the episodes, the dysfunctional relational pattern, conflict focus, and personality functioning focus were identified. Relational pattern is a focus that has been shown to be the expression of conflict and personality (Grande, 2007); therefore, this study selected only those episodes that showed a high presence of conflict or personality functioning focuses (Dagnino, 2012). This leads to only nine episodes, of which four had a predominance on conflict focus and five had the predominance of work on personality functioning.

Participants

The therapy was conducted in Chile by a male psychiatrist and psychoanalyst with 25 years of experience. The patient was a woman who attended an outpatient psychotherapy unit at a university clinic. More details on the patient will be given later.

Instruments

Operationalized Psychodynamic Diagnosis (OPD-2, OPD Taskforce, 2001)

Operationalized psychodynamic diagnosis is a diagnosis system that proposes an articulated integration of fundamental dimensions for a global comprehension of a patient. It consists of five axes; three of them are psychodynamic, which are evaluated for this study: Axis 2: interpersonal relationships, Axis 3: conflict, and Axis 4: personality functioning. Its scoring includes a training and clinical application manual and response forms for each axis for an easier and more reliable application. The rating for this system has received considerable empirical support (Cierpka et al., 2001; Zimmermann et al., 2012; Dinger et al., 2013).

As for each axis, a focus can be identified through the evaluation of its particular dynamics. Specifically, of interest for this study, conflict focus can be selected from seven types of conflict: (1) Individuation vs. dependency, (2) Submission vs. control, (3) Desire for protection and care vs. autarky (self-sufficiency), (4) Self-worth conflict, (5) Guilt conflict, (6) Oedipal sexual conflict, and (7) Identity conflict. On the contrary, personality functioning focus can be selected from eight personality domains, (1) self-perception (2) object perception, (3) self-regulation, (4) regulation of relationships, (5) internal communication, (6) external communication, (7) attachment to internal objects and (8) attachment to external objects.

Foci Presence and Depth Scale (Dagnino and de la Parra, 2010)

It allows measuring the degree of presence and depth level of a focus, in a given segment of psychotherapy sessions. FPDS consists of determining the specific formulation and focus for the patient. With this information, the presence and depth of each focus can be scored on a 3 points scale: 1: vague reference, 2: knowledge and exploration of focus, or 3: work on focus. To identify in which episode conflict or personality functioning was prevalent, only level 3 was considered. For example, if one episode shows level 3 on conflict and personality functioning level 1 or 2, it will be regarded as an episode with a prevalence of conflict.

Reflective Functioning Scale (Fonagy et al., 1998)

Reflective Functioning Scale (RFS) enables the assessment of mentalizing operationalized as reflective functioning (RF). The scale was designed to respond to the Adult Attachment Interview (AAI; Main et al., 2003), making it possible to identify textual passages of reflective functioning, categorize them, and evaluate their quality. Examples of RF are coded on an 11-point scale from−1 (failure or anti-reflective) to 9 (exceptionally reflective). Fonagy et al. (1998) distinguished between two main levels, negative (−1 to 2) to low (3–4) vs. average (5–6) to high (7–9) RF (Taubner et al., 2012).

Some studies have applied RFS in other contexts. Relevant for this study is its use in transcriptions of psychotherapeutic sessions (Karlsson and Kermott, 2006; Szecsody, 2008; particularly, de la Cerda, 2017; de la Cerda et al., 2019). Two trained raters reviewed the transcriptions, identifying passages of RF in the therapist and the patient and assessing their quality. It is worth mentioning that these studies reported the existence of turns of speech that cannot be coded with the RFS. These have been called *non-passages* [between 50 and 70% of speech turns, de la Cerda (2017)].

Procedures and Data Analysis

The sessions were video and audio recorded and later transcribed for their analysis. Each of the procedures described below was independently conducted by trained raters.

Determination of Relevant Episodes

For this study, the episodes of change were already identified and delimited. This was the material on which the analyses were performed. Although it was not part of the procedure for this study (only an input), it is worth detailing the procedure because of its relevance. Episodes of change are special segments of the therapeutic session (Elliot, 1984; Timulak, 2007) that make it possible to understand the connection between the therapeutic exchange and its outcome. For this study, change episodes (Krause et al., 2006) were analyzed. A change episode is considered as the segment of the patient–therapist interaction where a moment of change occurs. For the identification of change episodes, raters must identify a moment of change (through a list of Generic Change Indicators, Krause et al., 2006). This moment signals the end of the episode. Its beginning is established retrospectively by identifying the moment at which the participants start to talk about the content of the change (Krause and Dagnino, 2005). The episodes used in this study were analyzed by other research groups, having two pairs of trained coders who analyzed all the videos and transcripts of the sessions. Their codings were validated through intersubjective agreements (see Flick, 2004).

About the Identification of Focus

Two trained raters received the videos and transcripts of the two first sessions. With the use of the OPD manual, they developed a psychodynamic formulation identifying the particular foci (dysfunctional relational pattern, conflict, and personality functioning) for the patient. The interrater reliability kappas ranged from 0.45 to 0.76, which can be considered good (Fleiss, 1981; Cicchetti, 1994). Later, raters received the episodes of change and had to identify the presence and depth of each focus with the FPDS. This was done through intersubjective consensus.

About the Identification of Type and Quality of RF

The type and quality of RF of each participant during the episode were codified with the RFS (Fonagy et al., 1998). For the nine episodes, a total of 272 speaking turns were analyzed with RFS, using AtlasTi (7.0). The scale was applied to the transcripts of the sessions, identifying low or failure RF and moderate to high RF. To identify passages, two raters trained in the use of the RFS coded the transcripts of the episodes. For the assignment of a quality score to the passages, raters follow the scoring guidelines included in the RFS (Fonagy et al., 1998), ranging from −1 to 9 and record speaking turns during which each exemplar took place. The former makes it possible to differentiate between low or failure RF passages and moderate to high RF passages.

RESULTS

Case

Patient A was a 42-year-old woman, married, with four children (all in school). She studied economics, and her actual occupation was as head of the sales department of a small factory of furniture. Her husband was the owner and general manager of the company, therefore her boss. She complained that she was not happy at work and in general in all her interpersonal relationships. Besides, she referred that this happens especially at work, mainly because of her decision-making difficulties.

Her physical posture is hunched, with his hands together giving the impression of a submissive attitude. Her psychomotor skills are restricted due to inhibition in her expression. She seems to be of a younger age, sometimes behaving like a frightened little girl. In her history, she refers to having suffered mistreatment (physical and psychological) by her husband, and 1 year ago, she discovered his infidelity, which led her to a suicide attempt. She then began pharmacological treatment, which she stopped because her husband threw away the medication. She defines herself as "crazy," a hard worker who sometimes does not know if she is doing things right and finds it difficult to make decisions.

She defines her husband as authoritarian, who gives her orders both at home and at work.

She is the eldest of four siblings. Her father was abusive with his siblings but not with her, so she stayed "quiet." Her mother had states of madness (which appear to be psychotic) during the childhood of the patient, with many confusing moments for her.

TABLE 1 | Frequency of data.

Session	Episode	Total of speaking turns in the episode	Total of speaking turns coded with RFS	Patient		Therapist		Thematic focus worked on the episode
				Number of speaking turns with low or failure on RF	Number of speaking turns with moderate to high RF	Number of speaking turns with low or failure on RF	Number of speaking turns with moderate to high RF	
3	Epi1	23	11	5	1	1	4	Conflict
4	Epi2	15	8	0	4	0	4	Personality
4	Epi4	11	5	0	1	0	4	Conflict
5	Epi6	113	35	8	10	0	17	Conflict
10	Epi13	25	12	1	5	1	5	Conflict
14	Epi17	9	7	5	0	0	2	Conflict
14	Epi18	59	18	1	8	0	9	Personality
21	Epi23	12	4	1	1	0	2	Personality
21	Epi24	5	2	0	1	0	1	Personality
	Total	272	102	21	31	2	48	

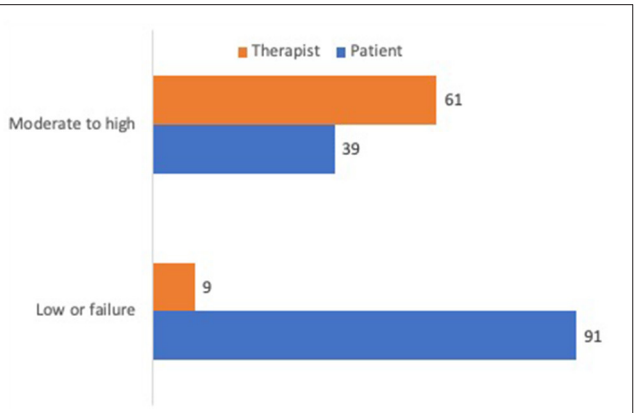

FIGURE 1 | Percentage of RF for patient and therapist.

General Results

From the 272 speaking turns, only 102 (37.5%) were considered as passages able to be coded with RFS. The rest, 170 (62.5%), were non-passages turns of speech.

Considering the passages identified by the RFS, regardless of the participant, on the 102 turns of speech coded with RF, corresponding to the nine episodes, it was found that 79 turns (77.45%) belonged to passages of moderate to high RF, 23 turns (22.55%) to passages of low or failure of the RF (see **Table 1**).

When observing the difference between patient and therapist of the specimens coded by the scale, it was found that the patient had 91% of low or failure on RF, while the therapist only had 9%. As for moderate to high RF, the patient had 39%, while the therapist had 61% (see **Figure 1**).

Mentalization of Patient and Therapist During Episodes of Conflict or Personality Functioning Focus

Table 2 shows, in the number of turns of speech, the frequency of statements in which patient or therapist is showing a low or failure, or moderate to high RF quality. It can be observed how in those episodes in which conflict work is being done, the patient presents slightly more low or failure RF, while the therapist shows a high frequency of moderate to high RF. On the contrary, when working on personality functioning, both patient and therapist show a high amount of moderate to high interventions compared with low or failure RF.

Mentalizing Trajectories Through the Episodes

From a descriptive point of view, **Figure 2** represents fluctuations in the quality of mentalization (−1 to 9) of therapist and patient in each of the episodes analyzed. It is interesting to observe the different trajectories of the episodes. It is possible to visually identify a harmonized or synchronous therapeutic work between patient and therapist, as in episode 2 and episode 18, with similar qualities of RF for both participants. Other interactions suggest miscoordination, as in episode 17, in which the therapist presents moderate and high RF exemplars, but the patient remains at low or failing RF scores; or episode 6, with moments of marked differences between the reflective functioning of therapist and patient. In the following section, we will make a more detailed analysis of the characteristics of these interactions.

Mentalization Interactions and Non-mentalizing Interactions in Episodes of Conflict or Personality Functioning Focus

Based on **Figure 2**, we will describe the results of the interweaving of the therapeutic work between patient and therapist in those episodes that predominate a focus on conflict or personality. As mentioned in the introduction, previous studies have identified two types of patient–therapist interactions, namely, mentalizing and non-mentalizing interactions (de la Cerda, 2017), depending on whether, due to the therapeutic work, the patient increases or decreases his or her reflective functioning.

Mentalizing interactions are characterized by the patient starting with low or failure mentalization, increasing in quality during the course of the interaction, presumably due to the interventions of the therapist, and ending the interaction with the patient mentalizing normally (moderate to high). On the contrary, non-mentalizing interactions usually begin with the patient in low or failure, or with a moderate to high mentalization, but in them the characteristic is that the interaction ends with the patient in low or failure, either because the therapist cannot help them to raise their mentalization quality or because, as a result of the interaction with the therapist, the patient stops mentalizing.

In this study, it was found that in those episodes in which conflict is predominantly worked on, both mentalizing and non-mentalizing interactions appear. On the contrary, when working predominantly on personality functioning, only mentalizing interactions appear.

In order to account for these results (qualitative and exploratory), example segments of these types of interaction in different types of episodes will be presented. Thus, a segment that exemplifies a non-mentalizing interaction and another with a mentalizing interaction in episodes where conflict is at work will be presented below. Then we will proceed to show the mentalizing interactions that occur in the episodes with an example where personality is worked on.

Non-mentalizing Interaction in Conflict Episodes

This is a typical example of a non-mentalizing interaction that can be attributed to a misalignment between the RF quality of patient and therapist. As can be seen in the content (see **Figure 3**), the therapist is working on the submission conflict. In an intervention with a high reflective level (RF = 7), the therapist presents an initial hypothesis about this conflict. However, perhaps precisely because of the initial mismatch between the interpretation offered and the reflective level with which the

TABLE 2 | Frequency of low or failure and moderate to high RF in each participant on conflict or personality functioning focus episodes.

	Patient		Therapist	
	Low or failure RF	**Moderate to high RF**	**Low or failure RF**	**Moderate to high RF**
Conflict focus episode	19	17	2	32
Personality functioning focus episode	2	14	0	16
Total	21	31	2	48

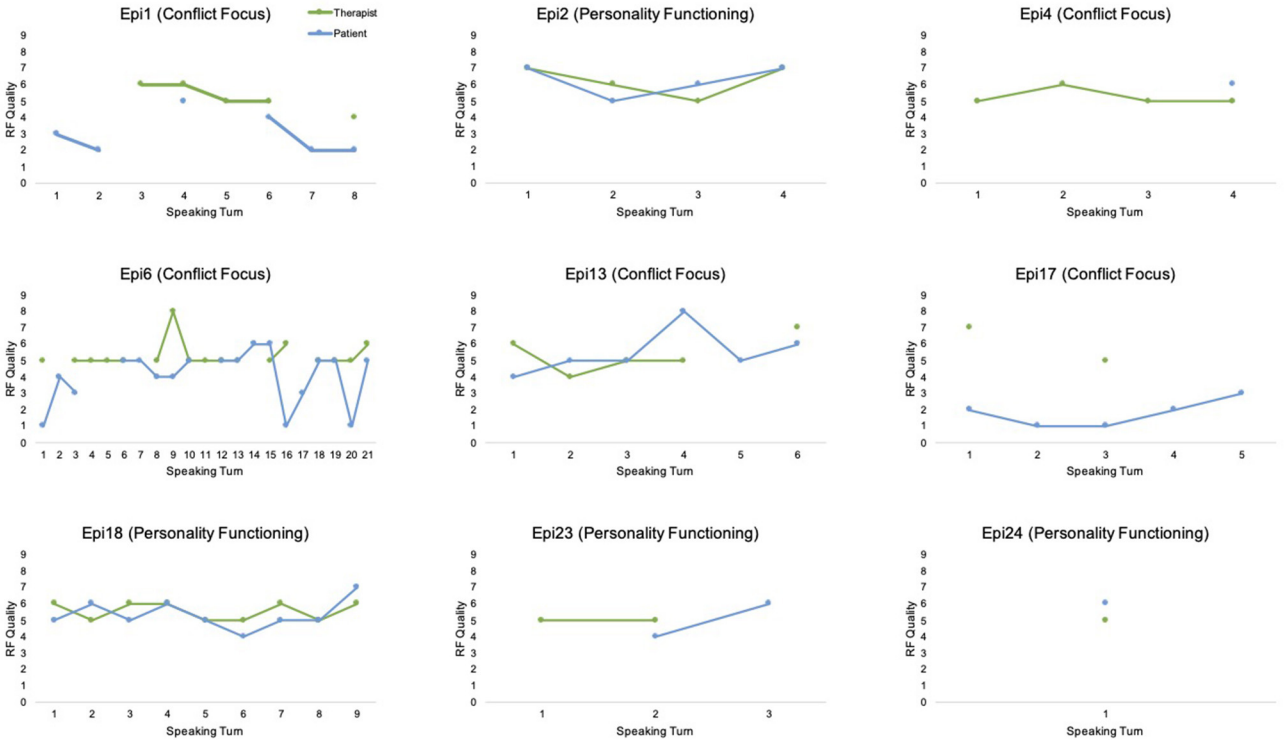

FIGURE 2 | Quality of mentalization of therapist and patient in each episode.

patient initiates the therapy, she fails, giving a concrete answer, externalizing and avoiding going deeper. The therapist asks for an affective and psychological meaning. The patient refers to concrete aspects of her working life, thematically disengaging from the invitation of the therapist to mentalize.

Figure 3 shows, in addition to the RF quality, the categories that, according to the RFS, characterize the coded passages (see RFS, Fonagy et al., 1998, p. 14 and following).

Mentalizing Interaction in Conflict Episode

In the following example, we will see the other type of mentalizing interaction that was prevalent in this type of episode. In this case, we will see the function that mentalization acquires in interventions in which the therapist accompanies the patient in a more contingent and close way. From the perspective of OPD, the episode begins by referring to the relationship between the two prevalent conflicts selected as focus (submission/control and care vs. autarchy). The therapist (T) shows the patient (P) how having a more active, less submissive attitude activates the care conflict, the fear of not being loved or even punished. "T: (...) you say 'I make decisions, but then comes the fear of having done something wrong? or of being punished?' or, or, or, that someone will get angry with you as in this case your husband?" In terms of reflective functioning, this is a demand question. By definition, it is a question that probes for RF (Taubner et al., 2012), those that demand from the other a demonstration of their capacity for reflective-self function (Fonagy et al., 1998). In terms of RF, this is a demand question. It is also a question, precisely about the relationship between mental states and behaviors, between making decisions, feeling fear, and to what that fear might be attributed. Regarding its quality, it shows a moderate RF (FR = 5) on the part of the therapist.

Two interventions from the patient follow this demand question: first, she responds from a failure of the reflective function (FR = 1): "P: well, in fact, he always gets angry if I don't go to work." A one-dimensional representation of her own and the mental states of the other, which is a failure since, directly asked about the relationship between the anger of her

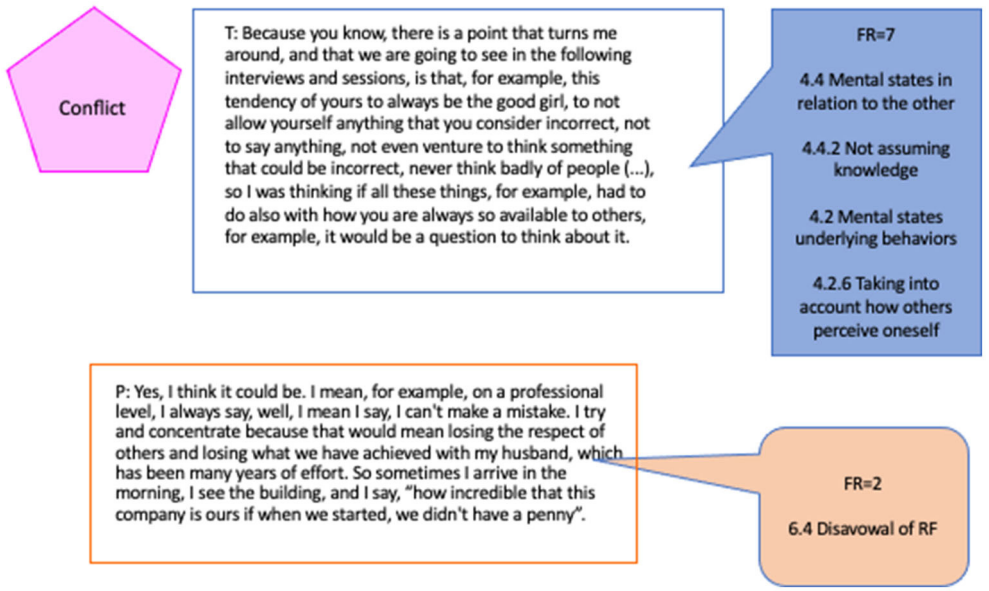

FIGURE 3 | Non-mentalizing interaction in conflict (Epi1).

husband and her fear, she generalizes, externalizes, and simplifies the reference with a superficial attribution.

The therapist tries to deepen this line of analysis, "T: but before you told me that you had made a decision and then you had started to doubt, (...) so now we see that it seems that this doubt has to do with this." The therapist centers the dialogue around the relationship between the indecision of the patient and this reflection about protecting a child. Again, it is an example of moderate RF, a simple to understand one, in that he paraphrases what the patient herself points out and only links back to what she had given a hint that it might be related.

The intervention invites the patient to go deeper: "P: (...) then I said 'no if I tell him something, he won't say anything to me, he will stay calm, but then will take it out on my son when he gets there, and he will scold him, he will insult him', so I said 'yeah, I better not tell him anything', and I didn't tell him anything, I just ignored him." This part of the response has a pre-reflective functioning (FR = 4); the patient refers to what she thinks and how that reflection leads her not to say anything to her husband. It is pre-reflective because, although she does not make the complete and transparent relationship between her mental states and the question of the therapist, it is noticeable that she can look at herself and analyze what thoughts motivated her action. Besides differentiating herself from the interpretative proposal of the therapist, she does not accept that it is fear of her husband but rather a strategy to protect her son.

The therapist orders the idea and paraphrases it: "T: That is, if you do something he doesn't like, then he punishes you; there is a retaliation about that." With a better-quality response (FR = 5), the patient can think about what motivates the aggressive behavior of her her husband, why he prefers her to be at work, and what he does when she does not obey him: "P: Yes, maybe, I have thought so, because I know that he was very upset that I did not go to work, maybe it makes him feel safer that I am at work. I have sometimes thought that it is a punishment system that he uses. It is like: if I don't go, he is grumpy the rest of the day."

Mentalizing Interaction in Personality Functioning Focus Episodes

We have chosen the following two examples because we consider them to express the function that mentalization has acquired in episodes focusing on personality functioning, which, moreover, belong to the final sessions of therapy. They are both mentalizing interactions since these were the prevalent interactions in these episodes.

Episode 23 is a segment where personality functioning predominates specifically on the dimension of regulation with others. The work on the capacity for asking for help is one of the dimensions of personality functioning. This is the penultimate episode which is in the last session of the process. The therapist remembers how difficult it was for her to accept that she needed help. Also, he shows the patient how difficult it can be to say goodbye and finish this process, and how this is important since it sets a boundary and a compromise that both agreed. He reinforces the resources that the patient has. The patient says "I never talked about anything with anyone, so maybe these are experiences that also tell me that maybe I will have to work more on my social side, because there may not always be a specialist to tell things to, but maybe I could, at some point, find a person I could trust and perhaps that would also help me, I think, but that's like a project that is far away from me" (RF = 6).

Finally, in **Figure 4**, corresponding to the last episode (epi24), the therapist is working predominantly on personality

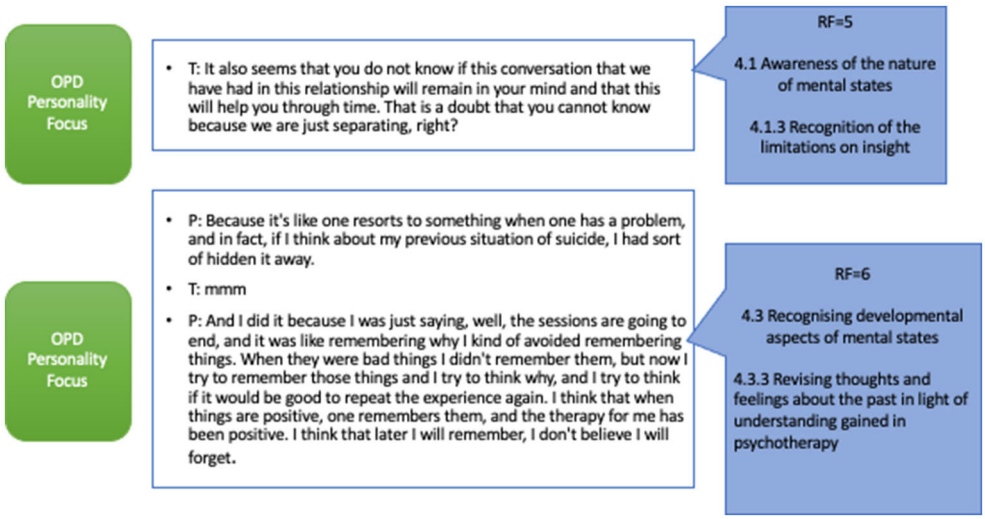

FIGURE 4 | Mentalizing interaction in personality focus (Epi24).

functioning, in this case, in the area of self-worth, seeking to evaluate the capacity of the patient to incorporate positive introjects, allowing another characteristic of the mentalizing work to manifest itself during the work on the structure/personality. The therapist uses a level of RF, close to the statements of the patient both in the reflective quality and in the terminology used. The patient can then take up this invitation, developing the idea, alluding to the evolutionary aspects of mental states, reviewing her previous moderate feelings in the light of the understanding she now has of herself, giving an account, in passing, of the processes of change she experienced during therapy.

DISCUSSION

This study sought to explore the mentalizing manifestations of both patient and therapist in those segments where the therapeutic focus of conflict or personality functioning predominates and to identify mentalizing and non-mentalizing interactions in each of these segments.

In the analysis of reflective functioning, more than half of the speaking turns were non-passages, which coincides with what has been found in other studies (e.g., de la Cerda, 2017, de la Cerda et al., 2019). Previous studies have shown that dissimilarities are observed between the passages/non-passages ratio in different therapies, with a higher proportion of passages in patients with difficulties in interpersonal functioning (de la Cerda, 2017). Keeping in mind the particular and functional characteristic of explicit mentalizing noted by Fonagy and Luyten (2009), it can be argued that an excess of explicit mentalizing activity, as generally detected by RFS, is indicative of a greater need for regulation, that is, a hyper-mentalizing mode of functioning and probably concomitant with an arousal activation in one or both participants of the interaction (Fonagy et al., 2011). If this were the case, the increased mentalizing activity would be necessary as a regulatory mechanism in the face of the emotional intensity of the psychotherapeutic relational encounter (de la Cerda, 2017).

Considering the level of RF regardless of the participants, it was found that there is a more significant presence of turns of speech with moderate to high RF in general terms. This may be related to the fact that the segments analyzed are episodes of change (Krause et al., 2006, 2007), virtuous moments in therapy that shape a subjective understanding of oneself that is different from the previous one. They culminate in constructing a subjective psychological theory based on biography, which can be considered the final product of therapeutic change (Krause and Dagnino, 2005). Hence, episodes of change are unique segments of the therapeutic dialogue and sought-after scenes that define the purpose of psychotherapy and test its efficacy and meaning in terms of a logic of results. In segments of change of the patients, it can be expected a high mentalization.

Globally, when analyzing the different types of episodes (conflict/personality functioning), it was observed that the therapist mainly performs medium or high-level RF interventions in those episodes where conflict is predominantly worked. We know that for therapists trained in the psychoanalytic line, working on conflict configurations is a central element of any treatment (Smith, 2003), so it is understood that the therapist performs interventions of a higher reflective level. Psychoanalytic tradition has emphasized work on conflict as a sign of success, and therefore, processes are considered successful only if patients show insight into these themes (Kiesler, 1983). For the patient, during these episodes, she shows the same amount of responses of low or failure RF or moderate to high RF, which could be showing the mobility in the work that is required. Concerning the episodes in which work predominates over personality functioning, both therapist and patient showed medium to high levels of RF. The episodes of personality functioning focus occur in the last sessions of the process, as was found on another study (Dagnino, 2021). This may indicate that there may be

a consolidation or synchrony in the level of work between both participants.

Finally, the mentalizing interactions during the episodes showed that on those episodes where the work is predominant in the conflict configurations, mentalizing and non-mentalizing interactions were found. The non-mentalizing interactions occurred mainly when the therapist made interventions with a high RF level, which caused a failure in the mentalization of the patient. This may be understood as the work on conflict implies techniques such as clarification, confrontations and interpretations (Rudolf, 2002), and it can be experienced as intense, painful, and with high emotional arousal by the patient, leading to failure. It becomes apparent that when the therapist performs interventions of similar levels to the patient, the patient increases her RF level from moderate to high. Perhaps, the therapist must perform less complex interventions to achieve better mentalization in the patient on those themes that elicit high emotions. As Kiesler (1983) suggests, pressure should be applied to the conflicts, but gently initially, to intensify the therapeutic work later on.

Contrary to what we expected when the patient and therapist are working on personality vulnerabilities, no failures on RF were observed from the patient. In these segments, any therapist intervention of low or failure RF or medium to high RF level generated a response in the patient of a medium to high RF level. As work on vulnerabilities in personality functioning can be equated with work on the aspects of personality disorders, it was to be expected that mentalizing would be disrupted and prementalizing modes would appear (Bateman and Fonagy, 2019). However, a hypothetical way to understand this different than expected outcome is to consider that interventions aimed at improving or working on those vulnerabilities are mainly directive, clarifying interventions that are in the support role (Luborsky, 1984; Rockland, 1989), and therefore, they produce a decrease in distress and emotional intensity and a tendency to greater regulation. All of the above would correlate with higher RF scores.

Several limitations must be taken into account. Because it is an exploratory study of just one case, we cannot determine causal relationships. Even though analyzing a single case allows for a deeper comprehension of the phenomena, expanding to include other patients with different baseline levels of functioning would help broaden the conclusions of this study.

Another aspect that could also not be reviewed due to the length of the case analyzed was the differences at different moments of therapy. In a previous study by one of the authors (de la Cerda, 2017), related to a 3-year therapy, the differences between three phases in the therapy—initial, middle, and final—were analyzed based on episodes of change. The observations indicated that the therapist maintains a relatively stable level of RF while the patient increases it considerably toward the end of the process. It would be of great interest to analyze in other studies the impact that this type of interaction has on the different phases of therapy, depending on whether conflict or personality is worked on from the perspective of the OPD.

Additionally, the analysis was made only on change episodes of the psychotherapeutic process. It would be interesting to consider different segments of the process to compare the interaction between therapist and patient on their mentalizing manifestations.

We hope that this study provides a valuable springboard to further research and a better comprehension of brief psychodynamic therapy.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because confidentiality. Requests to access the datasets should be directed to Paula Dagnino, pauladagnino@gmail.com.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee from Universidad Alberto Hurtado. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors contributed to the data analysis and the writing of the manuscript and approved the submitted version.

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Errare Humanum Est (To Err Is Human): A Mentalizing Breakdown in the Therapeutic Work With an Adolescent

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The therapeutic stance in therapies conceptualized by the two-person psychology (Wachtel, 2010) binds the therapist to genuine self-scrutiny. The concepts of transference and countertransference are viewed as jointly constructed endeavors between therapist and client, wherein the therapist needs to be aware of her contribution to difficulties arising in the therapeutic dyad. Different conceptualizations of this therapeutic technique have been eloquently described elsewhere throughout the years in terms of intersubjectivity (Stern, 2005; Aron, 2006), mentalizing (Fonagy and Bateman, 2006), mindfulness-in-action (Safran et al., 2001), rupture and repair (Newhill et al., 2003), and epistemic trust (Fonagy and Allison, 2014). These concepts will be presented interchangeably with a clinical vignette delineating a rupture in the therapeutic work with an adolescent. Finally, the article concludes with a discussion of identifying non-mentalizing modes (Allen et al., 2008) within the therapist to get back on track and restore epistemic trust (Fonagy et al., 2014) in the therapeutic relationship.

Keywords: intersubjectivity, mentalizing, repair, rupture, analytic impasse, complementarity

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INTRODUCTION

This article addresses the concepts of rupture and repair in a therapeutic process with an adolescent. Also, concepts connected to rupture and repair (Safran et al., 2001) like complementarity, analytic impasse, intersubjectivity and the third, eloquently described elsewhere by Aron (2006), will be discussed. The concept of intersubjectivity will be used interchangeably with mentalizing, always excellently described and defined in countless articles and books by the prominent fathers of the mentalizing theory themselves; Peter Fonagy and Anthony Bateman. The aim of this article is primarily to present reflections around mistakes on the part of the therapist. To work as a therapist is an assignment loaded with responsibility, sometimes making us fearful of doing or saying the wrong things or lacking in judgment. The fear itself might prevent us from learning from our mistakes and missing out on opportunities to deepen the working alliance with our clients.

To begin with, a short presentation of the meaning of intersubjectivity and its relatedness to mentalizing. Then an introduction of the young boy in therapy, followed by the rupture between him and his therapist, wherein the therapist fails to stay on the mentalizing course with the young person. After that, a clinical and theoretical discussion will follow concerning how to recognize own mentalizing failures, insecurity and pressure to reinstall intersubjectivity in the therapeutic

work once it is lost. The article will end with concluding remarks on the importance of repairing ruptures in the therapeutic alliance.

Intersubjectivity

In one of her articles from 2003, Karlen Lyons–Ruth contrasts the psychological two-person theories with theories that emphasize intrapsychic defense processes and argues that psychological defenses are a matter of intersubjectivity, born out of attachment relationships. According to Lyons-Ruth, our psychological defenses arise from the tension between the individual's fear arousal and the response from the individual's central attachment figures. Hence, coming into existence as a psychic being involves interplay with another human being, born out of intersubjectivity (Lyons-Ruth, 2003).

Intersubjectivity can be described, in Winnicott (1971) terms, as a transitional space between individuals allowing for the possibility of seeing the other as a subject in its own right with a meaningful inner life worthy of respect and genuine interest. Intersubjectivity is the opposite of relating to someone else as an object (Stern, 2005). The vital importance of recognizing the subjective experience of another is a core component of the mentalizing concept as well (Fonagy and Allison, 2014). The two concepts of intersubjectivity and mentalizing are highly related, even though mentalizing draws on extensive research from the fields of social cognition, attachment theory, evolutionary psychology and neurobiological research. The research on mentalizing is extensive and has vital importance for understanding human suffering and the importance of resilience (Sharp et al., 2009; Fonagy and Campbell, 2017; Choi-Kain et al., 2020). It is out of scope for this article to go into detail about this highly valued research.

Mentalizing

Like the concept of intersubjectivity, mentalizing too is a profound social construct (Allen, 2018). Compared to mindfulness and empathy, two usually well-known concepts, mentalizing is always about the self in relation to others (Allen et al., 2008). When one is mindful, one tunes into one's own unique experience; when being empathic one puts oneself into the shoes of another. When mentalizing, one tries to do both simultaneously to make sense of one's emotional and relational world; hence mentalizing sits between the two (Allen, 2018).

Mentalizing is a unique human capacity, a simple yet complicated enterprise. Humans engage in mentalizing essentially without notice; it is automatic, implicit, and requires no effort. However, in times of emotional arousal, the mentalizing capacity decreases, and it demands our attention to stay on track and not lose sight of what is going on at an emotional and relational level. The opposite pole of the automatic one is then required; the explicit mentalizing using different brain areas is more reflective and persevering. The concept consists of another three polarities; affect-cognition, self-other, inner-outer; all parts of the polarities are underpinned by different neural pathways (Allen et al., 2008). Another crucial component of the mentalizing concept is the ability to couple and uncouple what is in one's mind (fantasy) versus what is observable in reality, which is equivalent to imagining, with a low degree of certainty, the possibilities for others' mental states and experiences (Choi-Kain et al., 2020). Briefly, a mentalizing brain is a brain in balance regarding these poles. Considering this, it is natural that we all fall prey to an imbalance in our mentalizing capacity from time to time.

Accordingly, therapists need to be sensitive to and recognize when we fail in our mentalizing ability since our clients need our balanced brains to help them make sense of their own emotional and social difficulties. They need us to be in tune with them, seeing the world from their perspective, taking a genuine interest in their emotional and social struggles. When therapists lose their mentalizing capacity, the readiness to own up to that assignment goes out the window.

Effective and Ineffective Mentalizing

The mentalizing capacity varies from effective to ineffective (Choi-Kain and Gunderson, 2008) depending on the emotional arousal and level of pressure at hand. Still, in ineffective mentalizing, it is less arduous to get back to the effective mentalizing mode by pausing, being curious about what might be going on, and recognizing the ineffective mentalizing. Yet, once the individual has reached their tipping point, where the unique attachment history converges with the pressure level, they tip into non-mentalizing, and the way back to mentalizing becomes considerably more complex than from ineffective mentalizing to more effective mentalizing. The emotions leading up to the tipping point activate the individual's attachment system, leading to a deactivation of the capacity to mentalize (Fonagy and Luyten, 2009). From this point, a re-emergence of non-mentalistic modes of representing subjectivity take place; psychic equivalence, teleological stance, and pretend mode (Allen et al., 2008).

Due to the deactivation of non-mentalizing, the individual becomes caught up in their own emotional world prevented from shifting perspective. The anxiety rises, and there is a loss of control. Attempting to recover control, we become too certain that our perspective takes precedence; we lose touch with the inherently uncertain reality. The higher the degree of certainty, the less flexible and realistic models of other people's minds and the higher the risk of interpersonal difficulties (Fonagy and Target, 1996). According to the poles mentioned earlier, the non-mentalizing is always a sign that the brain has lost its balance, and we need to work our way back from prementalizing to mentalizing again.

Prementalizing Modes

Psychic equivalence is one of the prementalizing modes, often referred to as non-mentalizing, which all characterize a mentalizing breakdown; the other two are called the teleological stance and pretend mode. Psychic equivalence is characterized by the absence of a barrier between the inner and the outer world. Emotions are experienced as reality. There are no other perspectives available than the personally felt one, whereas the teleological stance is action-oriented, focusing on change in the concrete outer world; emotions become actions instead of being processed and reflected upon (Allen et al., 2008). Pretend mode is the prementalizing mode, where there is no link between fantasy

and reality (Luyten and Fonagy, 2015). There is no hierarchy between the three non-mentalizing modes, and one can end up in all three of them simultaneously. The brain gets out of balance and prevents the person concerned from making realistic models of mind, her own and others. Hence, therapists must be aware of their fluctuating mentalizing capability to be as helpful as possible for the client. Once the therapist is more ineffective in her mentalizing or has reached her tipping point, the risk is imminent that she will misread her client (Bateman and Fonagy, 2016).

Following this, a clinical case will be presented, in which the therapist falls prey to non-mentalizing and needs to work her way back to make realistic models of her and her patient's mind. The case is a case of mine, although essential details have been changed why it is impossible to recognize the young person.

Clinical Vignette

Noah, 18 years of age, presents clinically with borderline personality disorder features and vulnerable narcissistic traits. Struggling with affective instability, low impulse control and interpersonal difficulties, core features of the BPD diagnosis (Lieb et al., 2004), Noah turns to self-harm and acting out toward others in his immediate social context to regulate internal storms of emotions. Noah's narcissistic traits demonstrate vulnerability concerning real or perceived setbacks entailing intense emotions of disappointment in himself and life in general. He is sensitive to competitive contexts and struggles to feel proud even when he is excelling.

His therapist often finds him in a dissociative state of mind due to raw, negatively socially loaded emotions like rejection, humiliation, disappointment and envy, triggered in interpersonal contexts. There is intensive therapeutic work to help Noah connect emotionally, and the treatment tends to be charged with solid countertransference feelings.

In terms of resilience, Noah is academically talented determinedly working hard in this area of his life. In social contexts where he feels secure and safe, his capacity for engaging in intersubjectivity is high. Still, his mental state can shift rapidly from this well-functioning reflective stance to more rigid ways of functioning, especially when experiencing the emotions mentioned above. Noah's evident capacity to sometimes shift perspective and take a reflective stance on himself, his actions, and his impact on others bring about high expectations in the therapist, sometimes making her misjudge his mental state and underlying vulnerability.

Over a period, Noah and his therapist have worked consistently, aiming at improving his impulse control. Still, the last few weeks, the situation had been of a stalemate, Noah struggled in this area, and the therapist got more frustrated and worried he would end up harming himself or someone else. Before this particular session, the therapist received a call from Noah's social secretary telling her that Noah, his girlfriend and his family had endured a rough morning ending in Noah smashing a window with his bare hand. The social secretary asked the therapist if she worked with Noah's low impulse control, as was agreed upon in his client care management.

Entering the session, Noah (in a non-mentalizing state of mind) is anxiety-ridden, looking down on the floor, placing himself immediately in the chair intended for him, not taking his jacket off as he usually does. His hand is in bandages.

Noah mumbles; "I smashed another window."

Therapist (feels pressured, ineffective mentalizing); "Yeah, I heard, I got a call from social services."

Noah (teleological stance/psychic equivalence); "Huh, I bet they wanna throw me out of treatment, everyone being fed up with me."

The therapist responds to Noah's non-mentalizing mode by tipping into non-mentalizing as well and displays a grave facial expression addressing the bandaged hand (psychic equivalent/teleological); "You are hurt."

Noah frowns, looks out of the window, replacing himself in the chair (psychic equivalent/pretend mode); "I'm fine, I'm good actually. It is just a few scratches."

Therapist (pretend mode); "That's a relief, that is good."

Noah (pretend mode); "Yeah, I don't want any more scars."

Therapist (with a bit of an edge in her tone of voice, pretend mode/psychic equivalent): "Ah, I see. Yeah, I don't think it was a good idea, smashing your hand through the window."

In response to this comment from the therapist, Noah distinctly shuts down, breaking eye contact; he loses his posture and leans forward, hiding his face behind a curtain of hair.

The therapist responds to Noah shutting down with becoming fearful and desperately wants to get him out of his enclosed state of mind. Therefore, she leans toward him to "reach him" (teleological; "he must know I care!"), only with the result of further overheating Noah's attachment system. Hence, Noah withdraws even more (pretend mode).

Therapist leaning forward; "Noah?" Noah is hiding, his hair covering his face, rocking himself back and forth (psychic equivalent/pretend mode): "You said it wasn't a good idea."

Therapist (still absorbed by fear and her perspective on what have unfolded, not yet capable of being genuinely interested in Noah's perspective); "Well, I don't think it was a good idea because I don't want you to get hurt."

Noah (teleological): "Huh, you only care about the broken window, and I already know that I suck; I don't need you to tell me that."

Therapist (still fearful and unable to identify what is transpiring between them, therefore demands him to listen to her, teleological/psychic equivalent); "No, no, listen to me; I said that because I don't want you to harm yourself."

Noah (psychic equivalent); "Whatever, I'm such a loser; everything I do is crap."

Therapist (teleological/psychic equivalent); "No, Noah, listen to me, you have so many great ideas, but this one, smashing the window, was not my favorite idea; that is just it."

Noah (psychic equivalent); "I suck."

The therapist leans forward even closer, trying to catch Noah's eyes, which only heightens his arousal. Noah is pressing himself closer into the chair, hiding even more behind his curtain of hair. Suddenly, when he also starts to shake his legs intensely, the penny drops for the therapist. She becomes aware of her persecutory act on Noah, and she starts to pay attention to her

mental state, acknowledging her anxious emotions and non-mentalizing stance.

Therapist (another tone of voice; softer and calmer); "Noah, gosh, I'm sorry, you know I was too hard on you (taking responsibility). I can see I had kind of an edgy voice telling you about me thinking it was a bad idea smashing your hand through the window. I'm sorry."

Noah stops sobbing.

Therapist (sounds genuinely contrite); "I'm sorry I didn't get how much you struggled and how brave you were telling me what happened. You know what, I guess I sometimes get stuck in the view of you as a young person functioning very well, and I lose sight that you are also struggling hard from time to time. When I get stuck like that, I get frustrated and even a bit irritated. Do you see what I mean?"

Noah nods.

Therapist; "I guess I become really demanding then, huh?"

Noah listens.

Therapist (playing with a dark, demanding voice, shaking her index finger in the air); "Like this Noah, this is me, isn't it; Young man, I know you can do much better; you better don't let me down."

Noah smiles.

Therapist; "You know, if I were in your shoes, hearing that edgy voice, I would have been, you know, kind of angry, like 'what does she know about anything?'. But that is me; it doesn't necessarily need to mean that you got angry?"

Noah shrugs.

Therapist; "You know, like 'who the heck does she think she is?!"

Noah giggles.

Therapist; "Still, I wonder, did you, did you feel angry with me?"

Noah shrugs.

Therapist; "You see, I am wondering if you are and if you are actually protecting me from your anger hiding behind the curtain of your hair?"

Noah looks up.

Therapist; "You see, I think you are the brave one here, the one who really struggles, trying to protect me from your anger, is that so?"

From here, the therapeutic dialogue took a turn for the better since the therapist finally identified her non-mentalizing spin due to non-recognized emotions. Taking the pause, slow things down, owning up to her mistake and finally tuning into Noah's experience at the moment, Noah felt recognized and seen, and they could start over.

From now, a discussion of the breakdown of intersubjectivity, non-mentalizing therapist, and how to break the vicious non-mentalizing cycle.

DISCUSSION

The following section primarily discusses the mentalizing failure of the therapist and the mental process in the therapist to help her get back on the mentalizing track. There will be some comments on Noah's mentalizing breakdown as a consequence of the earlier turmoil in his social life and in response to the non-mentalizing attitude of hos therapist.

Be Aware of Pressure

Mentalizing starts with paying attention to mental shifts; following that comes the awareness of our mental states' impact on other people. Noah's therapist, who just hung up the phone after the call from the social secretary, is not paying attention to her shift in mode. Instead, she is unaware of the pressure she is under, stuck in the automatic, affective dominated mentalizing where she is ineffective in her mentalizing capacity. She responds to the pressure from the social network around Noah, wanting her to do something, by becoming frustrated and solution-focused – she is not pausing, checking her mentalizing, asking herself if she is capable of empathizing with Noah's emotional position in order to help him generate alternative perspectives on the situation eventually. Thus, she starts by viewing Noah through a lens of frustration, pressure and disappointment even, why she misses out on picking up on clues about Noah's anxious mode and his avoidant gaze.

Reaching the Tipping Point

Further, apart from responding to the stress conveyed by the network, the therapist is also responding to Noah's psychic equivalent mode. Noah is consumed by anxiety, shame, and guilty feelings prevented from cognitive reappraisal of the situation. As is familiar with adolescents, he becomes his emotions – feeling bad is being bad (McRae et al., 2012). Noah's state of mind is influencing the therapist, and these emotions become her reality as well; she reaches her tipping point and enters the realm of psychic equivalence where there is no room for alternative perspectives ("I'm a bad therapist, this is too much, I've worked so hard with Noah's impulse control, why isn't he listening to me? This happens every time," "I should look for a career change"). This dark ruminating quality of the mental process is a signal of non-mentalizing. When recognizing these mental states, the note to self is that the brain needs to recover its balance. Unfortunately, it is not always enough to take a deep breath or count to ten since there is a need for a biological switch in the brain to see the interaction from a reality-based point of view. The biological switch can be brought about by reminding oneself as a therapist to continually check in on one's mentalizing level before and during sessions. Then the identification of ineffective or non-mentalizing modes will be easier to detect. The switch often requires a good pause, for example, speaking out loud, "I can't really think straight, I guess you notice? Let me take a pause so I can restart my brain. Do you think I come across as different today? I think I need your help to put myself right again, is that okay with you?" In taking the pause and slowing down the pace, inviting the client to share the mental work of the therapist as a model, the therapist aims at preventing a stalemate in the therapeutic process.

However, let us stay with Noah and his therapist in their struggle for a while. Here, the therapeutic dyad is stuck in a

deadlock, a therapeutic impasse entailing the therapist's inability to see Noah from the inside out.

The Therapeutic Dyad in a Deadlock

The crux with non-mentalizing is that it will only worsen if it does not come to a halt. Non-mentalizing begets non-mentalizing, just as mentalizing begets mentalizing (Allen et al., 2008). The therapeutic dyad is in a deadlock, a vicious cycle of non-mentalizing, which the therapist is assigned to unlock. She reacts to Noah's psychic equivalence by becoming more frustrated and captivated by hopelessness, and they share the same predicament characterized by raw unforgiving emotions. Thus, the subsequent mental shift from psychic equivalence into the pretend mode is logical. The prementalizing mode of psychic equivalence often entails an unintentional switch into pretend mode where emotions are more out of reach; in the pretend mode, there seems to be no emotional contact either with oneself or with someone else. Pretend mode produces mental states characterized by emptiness and meaninglessness and tends to take a form of intellectualization or psycho-babbling (Allen et al., 2008), where there is no therapeutic gain; instead, the therapeutic process is equivalent to a wheel spinning in the sand (Fonagy and Target, 2000).

Spinning in the Pretend Mode

Not paying attention to the impasse, the tip into non-mentalizing, stops the therapist from making it explicit, making meaning out of it, and exploring the potential effects it might have had on Noah; there is no reparation (Newhill et al., 2003). Instead, she gets caught up in her distressing emotions and starts to operate in pretend mode. Her stress is augmenting, and she starts to feel fearful.

The indication of the shift into the pretend mode is when they start to talk about Noah and his hand. The dialogue between them is then distinctly avoidant of emotions; they are both refraining the emotional content in Noah's statement about him smashing the window. Pretend mode is commonly characterized by bypassing the elephant in the room, such as the probability that it might be more to this than feeling good when one recently smashed a hand through a window due to a fight with loved ones.

Eventually, the emotions arise again, and the non-reflective therapist tries on a superficial level to say something nice, although her unawareness and heated state of mind comes across through her edgy voice. Not being attentive enough to the emotions running high and her pertinent ineffective mentalizing interfere with her ability to notice her edgy voice. Hence, she is not able, yet, to fully grasp its impact on Noah.

Still, being caught up in her distress clouding her view, she perceives nothing but her own emotions. Again, she is not paying attention to her stern facial expression, which puts Noah in trouble. Boys tend to perceive severe faces as anger directed toward them (Tahmasebi et al., 2012), causing an intensifying of Noah's non-mentalizing, perceiving himself as judged and not wanted, his self-hatred making him identified with his alien self (Rossouw and Fonagy, 2012; Rossouw, 2015), and he shuts down.

Here we have a fearful therapist, Noah, still stuck in psychic equivalence where self-hatred fragments his mind, the therapist trying to persuade Noah she only meant well, not yet aware she is primarily working in her favor (pretend mode), trying to decrease her anxiety.

Let us leave the therapeutic dyad of Noah and his therapist and turn to the invaluable contributions from different prominent clinicians and researchers whom all have contributed immensely to the everyday life of ordinary clinicians trying to make the therapeutic climate for patients (and themselves) alive, flourishing and productive.

Theoretical Frame

The frontal figures of the mentalization-based theory, Bateman and Fonagy (2006), describe the importance of the mentalizing stance on the therapist's part during clients' affective storms. When something goes wrong in the therapeutic interaction, the intersubjectivity and the mentalizing capacity are compromised concerning both client and therapist. Misunderstandings and non-matched communication threaten to intensify emotional arousal, entailing an overheated attachment system. It then becomes impossible for the client to mentalize his state of mind and the mind of the therapist. This situation prevents the client from identifying and expressing emotions and needs and seeing the situation from different angles. The mind ends up being a place without meaning, only full of pain, leaving the client in absolute need of the therapist's balanced mind to recuperate their own. That is why Bateman and Fonagy describe the importance of the therapist taking responsibility for the interactive negativity that has unfolded (Bateman and Fonagy, 2006), aiming at helping the client to make the mental world meaningful again. They emphasize the importance of the mentalizing stance on the therapist's part, especially during clients' affective storms. The mentalization-based treatments frame the therapeutic dyad as a variant of an attachment relationship. Working with insecurely attached clients, the risk for overheating the attachment system due to negative communication arises. Sensitivity in the attachment system can easily and rapidly cause an overheating of the attachment system within the client, paving the way for affective storms and loss of reflective capacity (Fonagy and Bateman, 2008). So, what can we as therapists do then, when we too have lost access to our balanced minds?

Finding the Third

In the beautifully written article "Analytic impasse and the third - Clinical implications of intersubjectivity theory" (2006), Lewis Aron described the recognizable situation of feeling stuck in the therapeutic situation, not getting anywhere or knowing what to do to get out of it, frustrated emotions augmenting. Aron wrote about this deadlock as an analytic impasse constituted by complementarity in human dyads. To illustrate this situation, Aron used the metaphor of a compass needle fixed either on North-South or East-West. The rapid and flexible movements of the needle adjusted to its surrounding context are replaced by only a straight stagnant line. Any movement to another cardinal point is conspicuous by its absence. According to Aron, this is a frequent predicament in ongoing therapies, which is sometimes why therapies interrupt prematurely (Aron, 2006).

Jessica Benjamin is another relational theorist and clinician explaining the concept of complementarity (2004). Instead of the compass needle, she introduces the seesaw as a metaphor for the analytic impasse. Accordingly, Aron and Benjamin refer to complementarity as causing an analytic impasse, linearity without breathing space. There is no psychic air in the impasse, no room for reflection or possibility for the dyad members to relate to each other in an intersubjective or mentalizing way. By the elegant metaphor of the seesaw, Benjamin illustrates the human dilemma of complementarity, appearing regularly in therapeutic processes. The illustration of the seesaw captures how human dyads tend to get stuck on each end quickly. Once stuck, the dyad enters the doer-done relationship (Benjamin, 2004). In the doer-done relationship, also called the push-pull exchange, one part of the dyad does to the other, and the other is being done to Benjamin (2004). One is playing the role of perpetrator, the other one the victim. One is playing the part as passive, the other one as active, one is female, the other male, one is positive, the other is pessimistic, and so forth. Benjamin (2004) and Aron (2006) suggest that if there is a movement in this predicament, it is only about switching roles.

Noah and his therapist are stuck on the seesaw (Benjamin, 2006). The complementary dilemma they are in forces one to take on the role as a perpetrator "you ought to listen to me, I did nothing wrong, I was only caring about you," the other the victim "you are just like everyone else, you don't care about me." Then they switch roles, the perpetrator becoming the victim "hey, I am trying everything here, why are you not listening to me, huh? I'm the good guy!" and the victim becomes the perpetrator "I am not looking at you, I am not talking to you, I am most definitely not going to listen to you." Aron (2006) suggests, on the seesaw, in complementarity, there is no space for psychic improvement; the dyad will suffocate unless something happens.

In a deadlock between therapist and client, the client and the therapist are hindered by their blind spots (Bonovitz, 2009). They are both communicating through their historically relational filter ("Why isn't he listening to me?," "Why is everyone on me?") entailing the imminent risk of starting to objectify ("this is so typical adolescents," "adults don't get it") one another (Bonovitz, 2009). Several relational thinkers (Ogden, 1999; Allen, 2006; Aron, 2006; Wachtel, 2007) encourage therapists to be alert to the danger of objectifying the client.

Benjamin Wolstein, who coined the notion of the interlock between therapist and client in 1959, is reviewed by Bonovitz (2009). According to Bonovitz (2009) Wolstein suggests that objectifying leads to both parties being locked in their countertransferentially interpretations of the other, which primarily creates a reactive unit in which neither can move in a new direction. They are stuck in relation to each other where all psychological development ceases to exist. Simultaneously, this impasse is taking the character of a reciprocal endeavor between the two parties since the therapeutic impasse aims at keeping the anxiety at a low level (Bonovitz, 2009). Moving out of the reactive unit creates anxiety, as change tends to do; hence, therapist and client are protecting each other from their anxiety by not moving out of the reactive unit. Still, the impasse needs to be abandoned, especially if a premature ending of therapy can be prevented. Something needs to happen; the reactive unit needs a movement that pulls them out of the impasse.

Furthermore, Wolstein (Bonovitz, 2009) means that this movement stirring up within the impasse requires a more intense level of relating between the two (Bonovitz, 2009). A relating characterized by addressing what is going on in the here-and-now between therapist and client. The therapeutic focus needs to be on the emotional reaction to each other in their immediate presence if the reactive unit will move away from viewing one another only through the lens of historical projections. Wolstein suggests that both need to change (Bonovitz, 2009). The therapist changing is the core component in the therapeutic intervention. Even the therapist needs to discover new sides of themselves viewed through the eyes of the client. Wolstein encourages the therapist to face up to their narcissism and bear the discovery of new unexplored sides of themselves and own up to their limitations (Bonovitz, 2009). The responsibility is on the therapist to take the first step toward discovery and let themselves be more vulnerable (Aron, 2006).

The Creation of the Third

Benjamin (2006) resonates in line with Wolstein that therapists and clients cause ruptures and impasses in the therapeutic dyad and are both initiating repair. Both parties withdraw and reconnect. Benjamin defines this process as a dyadic dance, where the risk of impasses and complementarity is a constant threat to a dynamic and vivid therapeutic process.

The doer-done relationship mentioned above needs to be observed and recognized to create a thirdness within the dyad. The thirdness being a position within the dyad consisting of mentalizing the relationship (Bateman and Fonagy, 2016). As Wolstein, Benjamin (2006) writes about the pain in creating the third and the inevitable and necessity of this pain being born in the third space. It is the anxiety that Wolstein is speaking about when the dyad becomes triadic *via* metacommunication about the relationship, i.e., mentalizing the relationship.

Furthermore, Benjamin points to the dilemma of how easily a therapist risks getting into shared dissociation with the client. Shared affectivity (Jurist, 2005) of, for example, emotions of profound abandonment and meaninglessness. She claims that if the third is not introduced within the dyad, the consequence might be that therapist and client are sharing a painful historical experience from the client's life. An experience then prevented from being verbalized, made conscious and fully experience, why it will stay operating at an unconscious level. Benjamin calls the unprocessed non-verbal emotionally historical experience the death in the meaningless abandonment (Benjamin, 2006). She underlines the importance of the therapist's capacity to step outside the historical drama, which is crucial to capture a realistic view of the impasse. Stepping out of the dyad wondering "what is happening?" creates the third, and one stops playing a destructive role in the relived drama.

Additionally, Benjamin (2006) conveys that the solution to the impasse is the creation of the third *via* metacommunication. It requires that the therapist move out of the impasse; it is impossible to stay within the dyadic interaction. The step to the side is vital in order to create the third.

Finally, Benjamin (2006) clarifies that it is not enough that the third is born only in the therapist's mind; she means that it is required to happen in joint attention (Tomasello, 1995; Fonagy et al., 2007) with the client. The step to the side is driven by the therapist being vigilant to her transference, conveying it to the client to break out from complementarity (Benjamin, 2006).

Breaking the Complementarity

In the presented case example, the therapist initiates the third's creation when she eventually finds herself in her persecutory act toward Noah. Noah's evident bodily demonstration (shaking his legs) of his predicament finally gets to her. She then shifts from being stuck in automatic mentalizing and starts to observe the situation more from the outside. Her emotional reactions get to her; she becomes aware of her pressured, non-mentalizing state, feeling a shiver of shame, realizing the edge in her voice was born out of frustration and pressure.

By taking a step back mentally and physically, she starts to wonder if her frustration causes the behavior he is now displaying. Furthermore, in the here and now, she experiences him behaving difficultly and that he is hard to reach, and she now thinks that it might be a way for him to protect her from his anger. Is he struggling to preserve their relationship when she is the one who risks it? Thus, in the sense of joint attention (Tomasello and Farrar, 1986), she decides to invite him to share her thoughts; thereby, she initiates the reflective metacommunication on what might have been transpiring between the two on an emotional level. She starts to push them of Benjamin's seesaw.

CONCLUSIVE REMARKS

In the reparative work, the therapeutic focus needs to be on the emotional reaction to each other in their immediate presence if the reactive unit will move away from viewing one another only through the lens of historical projections. Wolstein suggests that both need to change (Bonovitz, 2009). The therapist changing is the core component in the therapeutic intervention. Even the therapist needs to discover new sides of herself viewed through the eyes of the client. Wolstein encourages the therapist to face up to their narcissism and bear the discovery of new unexplored sides of themselves owing up to their limitations (Bonovitz, 2009). The responsibility is on the therapist to take the first step toward discovery and let themselves be more vulnerable (Aron, 2006).

Via mentalizing the relationship, the therapist starts to crate the third, taking responsibility for the breakdown of intersubjectivity. The aim is not to be spot on in uncovering the relational pattern of the shared dissociation. The aim is to convey one's awareness of one's impact on the client and own up to that so that trust can be rebuilt in the dyad (Bateman and Fonagy, 2013).

In the same sense as Benjamin, Aron claimed that the dyad needs to evolve into a psychic triad. The interlock of the dyad restricts everyone's behavioral repertoire in the interpersonal situation. If we do not manage to take a step to the side, we are all destined to one reaction; client and therapist, the stakes are high in this restricted repertoire of behavior. It should always be the therapist going; first, the responsibility is on the therapist, even though sometimes the client is the one initiating the repair. When they do, they shall be praised (Fonagy et al., 2019).

Benjamin is in good company (Bateman and Fonagy, 2004; Aron, 2006; Wachtel, 2007; Goodman et al., 2009; Eubanks et al., 2018), suggesting that the analytic impasses harbor an enormous potential for improving the therapeutic process. In explicit terms, Benjamin conveys that therapists should not do anything forbidden to cause or unlock the impasse. However, for some theoretical schools, they might need to do something forbidden to unlock the impasse; the use of self, the self-disclosure, the metacommunication, the reflection upon the hear-and-now, the mentalizing of the moment, and the relationship (Bateman and Fonagy, 2016) in order to get back to the intersubjective space. The dyad needs to transform into a triad, where the third party is the mentalizing of the moment and the relationship (Bateman and Fonagy, 2016), the reflection upon the experience we share at the moment. That seems to be the place where we build trustworthy relationships, not in flawless communication but the reparation of our human flaws.

AUTHOR'S NOTE

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AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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