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Mentalizing in first-episode psychosis: Correlates with symptomatology and traits of borderline personality disorder

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Abstract

Aim: To explore the associations between mentalizing, positive and negative symptoms of psychosis, and traits of borderline personality disorder, in a sample of patients with first-episode psychosis, and in a non-clinical sample.

Methods: A quantitative cross-sectional design was employed. Thirty-two adults with first-episode psychosis and 148 non-clinical participants were assessed using the reflective functioning questionnaire. The questionnaire measures two dimensions of mentalizing, certainty and uncertainty about mental states. Traits of borderline personality disorder and symptoms of psychosis were measured using the self-report version of the Zanarini rating scale, the Community Assessment of Psychotic Experiences, and the Green et al., paranoid thought scale.

Results: Patients with first-episode psychosis reported increased mentalizing impairments, characterized as hypomentalizing tendencies, compared to the non-clinical group. Regression analysis showed significant associations between higher scores on the uncertainty about mental states scale and negative symptoms of psychosis in both groups. No associations were found between mentalizing impairments and traits of borderline personality disorder in the clinical sample, although associations were found in the non-clinical sample.

Conclusions: The present findings suggests that impairments in mentalizing may be associated with negative symptoms of psychosis across both clinical and non-clinical samples. Mentalizing impairments was found to be associated with traits of borderline personality disorder, but this finding was only confirmed in the non-clinical sample. Mentalizing should therefore be considered in the early assessment and treatment of patients experiencing difficulties with negative symptoms of psychosis.

KEYWORDS
borderline personality disorder, first-episode psychosis, mentalizing, reflective functioning

1 | INTRODUCTION

There is growing interest in the co-occurrence of psychotic illness and personality disorders (Simonsen & Newton-Howes, 2018). Current research suggests that this comorbidity is not uncommon (Slotema et al., 2018), and can have a significant impact on the functioning of these individuals (Francey et al., 2018; Kingdon et al., 2010). Patients with borderline personality disorder (BPD) and psychosis can have

significantly higher re-hospitalization rates, higher risk of suicidal behaviour, and are more likely to report experiences of childhood adversity, compared to those with a psychotic illness only (Moore et al., 2012; Moran et al., 2003). Despite this, research has found that individuals with this comorbidity can have poorer access to standard treatment (Francey et al., 2018). Evidence suggests personality difficulties may be a common feature of psychotic illness (Newton-Howes et al., 2008), as it has been found that psychosis frequently co-occurs with symptoms of mood dysregulation, impulsivity and interpersonal difficulties (Chanen & Thompson, 2016).

The underlying mechanisms for co-occurring BPD and psychosis remain poorly understood. Studies have found that the presence of childhood trauma tends to increase the risk of BPD in individuals with a psychotic disorder (Kingdon et al., 2010; Lysaker et al., 2004; Sar et al., 2010). Fonagy et al. (2002) argues that early trauma can have a serious impact on the quality of attachment relationships, which can disrupt the child's ability to link mental states with behaviour (termed mentalizing). Weijers et al. (2018) confirmed that mentalizing impairments were associated with reported child abuse in a sample of adults with psychotic disorder. The development of abnormal or deficient mentalizing in the context of early trauma may increase the risk for symptoms of psychosis and BPD through the effect on the stress response system (Brent & Fonagy, 2014). Therefore, individuals who struggle with understanding mental states may be more susceptible, in periods of acute stress, to emotional dysregulation, experiences of incoherence and emptiness in their self-identity, difficulty discerning others' intentions, and a sense of disconnection from reality (Fonagy & Bateman, 2007).

Mentalizing impairments may be viewed as a vulnerability factor for psychopathology (Fonagy et al., 2011), and have been linked to a range of mental disorders, including schizophrenia and BPD (Katznelson, 2014; Sprong et al., 2007). Mentalizing can be subdivided into two broad types: hypermentalizing and hypomentalizing. Hypermentalizing involves the tendency to make inaccurate mental state representations of self and other (Fonagy et al., 2016). For example, individuals may give long and overly detailed accounts to try to explain their own or someone else's intentions, with little evidence to support these accounts, and little awareness that they could be wrong. Hypomentalizing, on the other hand involves a concrete inability to represent the minds of self and others (Fonagy et al., 2016). Frith (2004) has proposed that hypomentalizing could be linked to the development of negative symptoms of psychosis, whilst hypermentalizing could be associated with positive symptoms, paranoid delusions in particular.

Theory of mind (ToM) is conceptually similar to mentalization and has been extensively studied in the schizophrenia literature. ToM can be defined as the ability to detect and interpret social stimuli to predict or understand social behaviour (Green, Freeman, et al., 2008; Green, Penn, et al., 2008). However, there are conceptual differences between ToM and mentalizing, as mentalizing is a broader, multifaceted concept that includes emotional aspects of interpreting mental states, to understand people's intentions, needs, desires or goals (Scherer-Dickson, 2010). Unfortunately, there is a dearth of studies that have investigated mentalizing using a measure that differentiates between the two types of mentalizing impairments. Studies that have distinguished between impairment types have found a relationship between hypermentalizing and positive symptoms (Fretland et al., 2015; Montag et al., 2011), and specifically to paranoid delusions (Bentall et al., 2009; Boldrini et al., 2020). To the author's knowledge, no studies to date have investigated the role of mentalizing impairments in the development of psychotic symptoms, and its association with co-morbid BPD traits.

Mentalizing has been operationalized by Fonagy et al. (2002) as reflective functioning (RF). A validated self-report measure has been designed to capture RF abilities in a less time-consuming way (Fonagy et al., 2016). Investigating RF within a clinical sample of individuals with first-episode psychosis (FEP) as well as within a non-clinical sample will allow for the exploration of the relationship between mentalizing and increased symptomatology across the psychosis spectrum. This represents a burgeoning area of research exploring psychotic traits (or schizotypal traits) that are found to be on a continuum between clinical and non-clinical populations.

The aims of this study are threefold: (1) to explore the presence of mentalizing impairments in a FEP sample, using a new self-report measure of reflective functioning (RF). (2) To investigate the associations between mentalizing impairments (hypermentalizing and hypomentalizing) and symptoms of psychosis (negative symptoms and persecutory paranoia) in the context of FEP. (3) To investigate the association between mentalizing impairments and BPD traits in both a clinical and non-clinical sample. This leads to a number of hypotheses. First, reflective functioning will be significantly more impaired in patients with FEP, in comparison to a non-clinical sample. Second, hypomentalizing errors are more likely to be associated with a higher level of negative symptoms of psychosis. Third, hypermentalizing errors are more likely to be associated with a higher level of persecutory paranoia. Finally, mentalizing errors will be significantly associated with levels of BPD traits.

2 | METHOD

2.1 | Procedures

Participants in the clinical sample were recruited from two early intervention services in London, England, and were identified via their clinician. The study was approved by the NHS Research Ethics Committee, and the Health Research Authority (HRA) (REC Reference 17/LO/0303). Inclusion criteria were: aged 18 to 65; currently accessing the service for first-episode psychosis (defined as presentation to clinical services with psychotic symptoms for the first time, with positive psychotic symptoms of sufficient severity and/or distress to require antipsychotic medication); a primary diagnosis of an affective or non-affective psychotic disorder; and informed consent. Exclusion criteria were: the presence of a substance use disorder, head injury or organic disorder that is judged to be the primary cause of psychotic symptoms. The non-clinical sample were recruited via online

university advertisements and by word of mouth via social media. Inclusion criteria for this sample were: aged 18 to 65; informed consent. Exclusion criteria were: currently receiving treatment for a psychotic disorder. G Power 3 (Faul et al., 2007) was used to estimate the sample size needed to achieve power of .8. A priori tests of multiple regression analyses, with two predictor variables, indicated that a sample size of 68 participants would be needed in each group.

2.2 | Measures

2.2.1 | Community Assessment of Psychic Experience—Negative (CAPE-N)

Community Assessment of Psychic Experience—Negative (CAPE-N) is a 42 item self-report questionnaire (Konings et al., 2006). It has been extensively used as a measure of psychosis proneness in clinical and non-clinical samples, and has been found to have good test re-test reliability and validity (Konings et al., 2006). For the current study a more specific measure of paranoia was sought, therefore the positive dimension was not included in the battery of questionnaires. Studies have confirmed that the sub-scales can be used independently of each other, as they measure separate dimensions of psychosis (Stefanis et al., 2002). Scores on the negative sub-scale range from one to four, with a higher score reflecting higher frequency and distress from negative symptoms of psychosis. The internal reliability for the present non-clinical ($\alpha = .85$) and clinical sample ($\alpha = .87$) was good.

2.2.2 | Green et al. Paranoid Thoughts Scale—Persecution (GPTS-P)

The full version of this self-report scale consists of two sub-scales of paranoia: 'social reference' and 'persecution' (Green, Freeman, et al., 2008; Green, Penn, et al., 2008). It has been used in clinical and non-clinical samples, and been found to have good sensitivity to change, test re-test reliability and validity (Green, Freeman, et al., 2008; Green, Penn, et al., 2008). The scales can be administered independently of each other. This study only included the persecutory paranoia sub-scale, which represents the more severe end of paranoia. Scores range from one (not at all) to five (totally) with higher scores indicating higher levels of paranoid thinking. The internal consistency for the present non-clinical ($\alpha = .96$) and clinical sample ($\alpha = .97$) was excellent.

2.2.3 | Reflective functioning questionnaire

Reflective Functioning Questionnaire (RFQ) is a self-report screening questionnaire of RF containing two subscales assessing uncertainty (RFQu) and certainty (RFQc) about mental states (Fonagy et al., 2016). There are eight items in total and it has been found to show good reliability and validity in clinical and nonclinical samples (although it has not been validated for use with people with psychosis). All items are scored on a seven-point Likert scale ranging from strongly disagree to strongly agree, responses are then recoded from zero to three. The RFQc subscale contains six items assessing the level of certainty about mental states in self and others. An example item on this subscale is 'People's thoughts are a mystery to me'. Participant's answers are recoded so that high scores (strong disagreement) represent people who have rigid certainty about mental states (hypermentalizing), whilst mid-range scores represent genuine mentalizing. The RFQu subscale contains six items that assesses the level of uncertainty about mental states of others and self. An example item on this scale is 'Sometimes I do things without really knowing why'. For this scale, high scores (strong agreement) represent a lack of knowledge about mental states (hypomentalizing), whilst low scores represent more genuine mentalizing. The internal reliability of the RFQc for the present non-clinical ($\alpha = .80$) and clinical sample ($\alpha = .72$) was good. The internal reliability of the RFQu for the present non-clinical ($\alpha = .76$) and clinical sample ($\alpha = .73$) was also good.

2.2.4 | The Zanarini BPD self-report version

This measures the severity of borderline psychopathology, it has nine items, covering the nine DSM criteria for BPD, rated on a five-point rating scale of from zero (no symptoms) to four (severe symptoms) (Zanarini et al., 2015). The internal reliability for the present non-clinical ($\alpha = .86$) and clinical sample ($\alpha = .73$) was good.

2.3 | Analyses

Analysis was conducted using IBM SPSS statistics version 20. The data was assessed for normality within each variable. To investigate differences between the two groups and testing hypothesis 1, simple *t*-tests and Mann Whitney *U* tests were performed. To assess the relationships between the variables within the two groups, correlational analysis was conducted. Multiple linear regressions were then performed using the two predictor variables (RFQu and RFQc) and the three dependent variables (positive symptoms, negative symptoms, and BPD traits). This was entered as three separate linear regression models, testing hypotheses 2, 3 and 4. The decision was made not to make statistical corrections for multiple testing due to the exploratory nature of the study and the increased risk of missing important findings (type II errors) when applying Bonferroni adjustments (Bender & Lange, 2001).

3 | RESULTS

Thirty-two FEP patients and 148 non-clinical participants were recruited. Demographics are displayed in Table 1. In comparison to the non-clinical group, patients with FEP were significantly more likely to be male ($X^2[2] = 17.362$, $p < .001$), and of a non-white ethnicity

($X^2[5] = 23.102$, $p < .001$). The samples were not found to be significantly different in age ($X^2[4] = 8.372$, $p = .079$).

Between-group analysis showed that on average, levels of BPD traits, paranoid thoughts, frequency of negative symptoms and related distress were significantly higher in the clinical sample in comparison to the non-clinical sample (see Table 2). The clinical sample had significantly lower RFQc scores, and significantly higher RFQu scores than the non-clinical group. This suggests that the clinical sample were characterized by higher uncertainty about mental states (hypomentalizing impairments), whilst the non-clinical sample displayed more certainty about mental states. It should be noted that the RFQ does not currently have any validated or well-established cut-offs to assess whether these scores would be considered clinically high or low. The measure states that high scores on the certainty subscale represent a rigid certainty about mental states, whilst mid-range scores represent genuine mentalizing. Therefore, the mean score obtained by the non-clinical sample is interpreted as representing more genuine mentalizing.

To further characterize the sample, a diagnostic categorical variable was created in which participants scoring 10 or above on the ZAN-BPD were deemed likely to meet DSM criteria for BPD. This cut-off has been applied in previous studies (Fonagy et al., 2016). In the clinical sample, 37.5% exceeded this cut-off, whilst 16.9% exceeded the cut-off in the non-clinical sample.

In the clinical group, lower RFQc were significantly correlated with a higher frequency of negative symptoms, whilst higher RFQu were associated with a higher frequency of negative symptoms, and a higher level of co-occurring BPD symptoms (see Table 3). In comparison, the non-clinical sample showed significant relationships between RFQc and RFQu with all the measures. The RFQc and RFQu scales did not correlate with any of the demographic variables in the clinical sample. In the non-clinical sample, age range was significantly correlated with RFQu ($r_s = -.384$) and RFQc ($r_s = .390$), suggesting that age may be a potential confound.

TABLE 1 Sample characteristics

	Clinical sample, $N = 32$ (%)	Non-clinical sample, $N = 148$ (%)
Age range		
18 and under	0	0
18–25	12 (37.5)	51 (34.5)
26–35	10 (31.3)	63 (42.6)
36–45	5 (15.6)	16 (10.8)
46–55	4 (12.5)	4 (2.7)
56 and over	1 (3.1)	14 (9.5)
Gender		
Male	19 (59.4)	41 (27.7)
Female	12 (37.5)	107 (72.3)
Trans	1 (3.1)	0
Ethnicity		
White	17 (53.1)	128 (86.5)
Mixed/multiple ethnic groups	4 (12.5)	4 (2.7)
Asian/Asian British	5 (15.6)	6 (4.1)
Black/African/Caribbean/Black British	4 (12.5)	4 (2.7)
Middle Eastern	0	3 (2)
Other ethnic group	2 (6.3)	3 (2)

3.1 | Regression analysis

3.1.1 | Negative symptoms

Both predictor variables (RFQu and RFQc) correlated with age range, therefore, a hierarchical regression model was applied in which age range was entered as the first Independent Variable (IV). RFQu and RFQc were then entered in the second block to be tested. Bias-corrected bootstrapping (based on 1000 bootstrap samples) was performed to account for the small sample size (Field, 2009). The results are displayed in Table 4. In the clinical group, the level of uncertainty about mental states was found to significantly predict higher levels of negative symptoms when age and RFQc variables were held constant. This model was significant ($F[3, 28] = 8.96$, $p < .001$) and accounted for 49% of the variance. In the non-clinical group, the level of uncertainty and certainty about mental states were found to be significant independent predictors of negative symptoms. This model was found to be significant ($F[3, 144] = 19.90$, $p < .001$) and accounted for 29% of the variance.

TABLE 2 Descriptive statistics and between group analyses

	Clinical sample ($n = 32$)			Non-clinical sample ($n = 148$)			
	Mean	Mdn	SD	Mean	Mdn	SD	Statistic
ZAN-BPD	8	6.5	5.21	5.6	4	5.13	$U = 1542$, $z = -3.104$, $p < .01$
GPTS-P	36.8	29	20.1	22.0	18	10.3	$U = 1245$, $z = -4.278$, $p < .001$
CAPE-N frequency	30.4	31	7.5	25.4	24.5	5.6	$t(178) = 4.23$, $p < .001$
CAPE-N distress	23.9	24	11.3	16.3	14	9	$t(178) = 4.13$, $p < .001$
RFQ certainty	.8	.8	.7	1.3	1.2	.8	$t(178) = -2.68$, $p < .01$
RFQ uncertainty	1.0	.8	.7	.5	.3	.6	$U = 1267$, $z = -4.178$, $p < .001$

TABLE 3 Correlations between RFQ subscales, psychotic symptoms and BPD traits (r_s)

		Clinical sample		Non-clinical sample		
	CAPE frequency	GPTS	ZAN-BPD	CAPE frequency	GPTS	ZAN-BPD
RFQ certainty	−.502**	−.294	−.278	−.474**	−.394**	−.497**
RFQ uncertainty	.625**	.269	.419*	.475**	.413**	.560**

*p < .05; **p < .01.

TABLE 4 Hierarchical regression analysis with CAPE-N

						Bootstrap BCa 95% CI		
			B	*Bootstrap std. error*	*β*	Lower	Upper	R^2
Clinical	1	Constant	24.51	6.09		12.39	36.18	.03
		Age range	1.15	1.11	.18	−1.02	3.29	
	2	Constant	21.74	4.90		12.31	30.42	.49
		Age range	0.84	0.69	.13	−.84	2.40	
		RFQc	−1.64	2.26	−.16	−5.68	3.66	
		RFQu	5.90	2.33	.57*	.54	1.00	
Non-Clinical	1	Constant	31.47	1.71		27.82	35.20	.06
		Age range	−1.19	0.29	−.25**	−1.72	−.63	
	2	Constant	28.67	2.24		23.61	33.53	.29
		Age range	−0.39	0.31	−.08	−.91	.15	
		RFQc	−2.03	0.69	−.29**	−3.31	−.80	
		RFQu	2.81	1.11	.27**	.86	4.85	

*p < .05; **p < .01.

3.1.2 | Paranoia

A hierarchical regression model was applied in which both IVs were entered simultaneously into the model, after controlling for the effects of age range. Bias-corrected bootstrapping (based on 1000 bootstrap samples) was performed. The results are displayed in Table 5. In the clinical group, the overall model did not significantly predict variance in persecutory paranoia, $F(3, 28) = 2.06$, $p = .129$. In the non-clinical group, the model was a significant predictor of persecutory paranoia, $F(3, 144) = 8.68$, $p < .001$, however this only accounted for 15% of the variance. Neither RFQu nor RFQc was found to be significantly associated with symptoms of paranoia in both the clinical and non-clinical group.

3.1.3 | BPD traits

A hierarchical regression model was applied in which both IVs were entered simultaneously into the model, after controlling for the effects of age range. Bias-corrected bootstrapping (based on 1000 bootstrap samples) was performed. The results are displayed in Table 6. For individuals with FEP, an association between a higher level of uncertainty about mental states and a higher level of co-occurring BPD symptoms was found to be approaching significance ($p = .071$). However, overall the model was not significant ($F[3, 28] = 2.56$, $p = .075$) and only accounted for 22% of the variance. In the non-clinical sample, higher levels of BPD symptoms were significantly associated with uncertainty about mental states, when RFQc and age range were held constant. This model was significant, $F(3, 144) = 39.90$, $p < .001$, and accounted for 45% of the variance.

4 | DISCUSSION

The current study found that patients with FEP displayed significantly more hypomentalizing impairments compared to the non-clinical group. Significant associations were found between hypomentalizing and higher levels of negative symptoms of psychosis across both groups. No evidence was found in support of hypothesis 3, that hypermentalizing errors would be associated with persecutory paranoia. Finally, hypomentalizing impairments were found to be significantly associated with BPD traits in those without FEP only. This partially supports hypothesis 4 that levels of mentalizing would be associated with BPD traits.

The findings suggest that those with FEP were more likely to struggle with a lack of knowledge about mental states (hypomentalizing), which is consistent with previous studies (Andreou et al., 2015; MacBeth et al., 2011; Vaskinn et al., 2015). Additionally, patients with FEP showed a similar pattern of hypomentalizing to that of patients with BPD in previous studies (Fonagy et al., 2016; Perroud

TABLE 5 Hierarchical regression analysis with GPTS-P

						Bootstrap BCa 95% CI		
			B	*Bootstrap Std. error*	*β*	Lower	Upper	R^2
Clinical	1	Constant	48.78	14.77		20.33	76.92	.09
		Age range	−2.34	2.83	−.14	−7.61	4.05	
	2	Constant	43.80	16.46		11.73	71.25	.18
		Age range	−2.86	2.38	−.17	−7.47	3.18	
		RFQc	−2.11	6.40	−.08	−12.32	16.60	
		RFQu	9.72	6.76	.35	−3.10	22.35	
Non-Clinical	1	Constant	31.65	2.83		26.41	37.62	.05
		Age range	−1.89	0.45	−.22**	−2.81	−1.10	
	2	Constant	27.51	3.70		21.11	34.29	.15
		Age range	−0.91	0.35	−.10	−1.53	−0.23	
		RFQc	−2.14	1.34	−.16	−5.42	0.73	
		RFQu	4.02	2.69	.21	−2.69	9.31	

**$p < .01$.

TABLE 6 Hierarchical regression analysis with ZAN-BPD

						Bootstrap BCa 95% CI		
			B	*Bootstrap Std. error*	*β*	Lower	Upper	R^2
Clinical	1	Constant	7.01	4.10		−0.10	14.37	.00
		Age range	0.19	0.79	.04	−1.46	1.82	
	2	Constant	4.55	3.57		−2.50	11.12	.22
		Age range	−0.02	0.62	−.00	−1.47	1.47	
		RFQc	0.22	1.53	.03	−2.23	3.56	
		RFQu	3.46	1.80	.48	−0.10	6.51	
Non-Clinical	1	Constant	11.77	1.58		8.94	14.76	.08
		Age range	−1.22	0.28	−.28**	−1.84	−0.65	
	2	Constant	4.93	1.49		1.84	7.92	.45
		Age range	−0.43	0.25	−.10	−0.94	0.13	
		RFQc	0.05	0.50	.01	−0.83	0.93	
		RFQu	6.03	1.06	.64**	3.73	8.09	

**$p < .01$.

et al., 2017). A higher level of hypomentalizing impairments was found to be associated with a higher level of negative symptoms across both groups in the present study. This supports previous longitudinal studies that have shown impairments in mentalizing is associated with increased risk of developing negative symptoms of psychosis (Hamm et al., 2012).

Neither of the RFQ subscales were significant predictors of persecutory paranoia across both groups. Previous research has found an association between hypermentalizing and positive symptoms of psychosis (Fretland et al., 2015; Montag et al., 2011). These studies had larger sample sizes, patients were being treated for chronic schizophrenia, and an alternative assessment of mentalizing was used. It may be that further studies are needed to establish the validity of the RFQ as a screening tool for mentalizing in individuals with psychosis. The clinical sample had restricted amounts of variance in the RFQc, which would make it difficult to find a statistical effect. This may be a result of the re-scoring system used for this measure and the small sample size.

Patients with FEP showed significantly higher levels of BPD traits compared to those without FEP. For those with FEP the association between increased mentalizing impairments and co-occurring BPD symptoms was not significant in the bootstrapped model. It is possible that a lack of power in the clinical group may have influenced results. Larger sample sizes are needed to investigate whether a type II error has occurred. Given the complexity of the possible theoretical pathways to the development of psychotic symptomatology and BPD

traits, further studies are needed to investigate the effects of other variables; particularly early trauma and attachment styles, and the relationship with mentalizing impairments. In the non-clinical sample, support was found for the hypothesis that hypomentalizing tendencies would be associated with BPD symptoms, which supports previous findings (Fonagy et al., 2016).

This study is one of the first to assess mentalizing in a sample of patients with FEP using a measure that differentiates between types of mentalizing impairments, and to explore the relationship between mentalizing impairments and symptoms of psychopathology. Inclusion of a non-clinical control group helped to ensure that a broader spectrum of unusual experiences were present in this study. However, there are also important limitations that must be acknowledged. First, there is the issue of the small sample size within the clinical group, meaning that the possibility of obtaining type I and type II errors cannot be excluded, and that this study was under-powered. Second, this study cannot imply causality due to the cross-sectional study design. Third, the participants were not representative of the wider population. The non-clinical sample was under-representative of people over the age of 46, predominantly white females, and was likely over-representative of individuals in higher education due to the use of university students. A fourth issue was that unknown confounding variables, such as current medication use and cognitive functioning, were not measured in the present study. Finally, it is important to take into consideration that measuring RF through self-report may be biased, and that the measure has not been validated in non-clinical groups or those with psychosis. The RFQ was designed to address this self-report bias, as the two subscales capture the biases that one expects individuals to be prone to when assessing their own reflective capacities. However, this does not mean that this bias could be necessarily eliminated.

The findings of the present study suggest that assessing mentalizing in individuals with FEP could be beneficial for targeting treatments to help reduce the impact of negative symptoms (Rammou et al., 2019). This is turn could help to improve the long-term outcomes of patients with FEP and co-morbid BPD. Protocols for Mentalization Based Therapy for Psychosis (MBTp) are being developed (Debbané et al., 2016; Weijers et al., 2016). The results of a randomized controlled trial comparing MBTp to treatment as usual (TAU) for individuals with non-affective psychotic disorder reported promising findings, that the MBTp group showed more robust improvements in social functioning (Weijers et al., 2020).

5 | CONCLUSIONS

This study found support for the hypothesis that underlying deficits in understanding mental states of self and others (hypomentalizing) would be associated with a higher level of negative symptoms. However, it is important to note that the relationship between mentalizing and psychopathology is complex, possibly non-linear, and may interact with other variables. Further research is needed to investigate these relationships in a larger clinical sample using a longitudinal design. Overall, this study highlights the importance of taking into consideration mentalizing abilities, as well as personality difficulties when assessing, formulating and providing treatment for psychosis.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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