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BRIEF REPORT

Ultrahigh risk for developing psychosis and psychotic personality organization

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Aims: Childhood adversities combined with unsafe parenting may disturb personality development. This study investigated whether psychotic personality organization as defined by Kernberg and assessed with de Dutch Short Form of the MMPI (DSFM) is more prevalent in ultrahigh risk (UHR) for psychosis compared with non-psychotic psychiatric control patients (NPPC).
Methods: A total of 73 UHR and 119 NPPC patients were assessed with the DSFM and the Comprehensive Assessment of at Risk Mental States (CAARMS).
Results: The results showed that the psychotic personality organization (PPO) was not associated to UHR status. The UHR group showed more severe symptoms, particularly higher scores on DSFM subscales negativism (negative affect) and somatization (vague somatic complaints) and severe psychopathology (psychotic symptoms and dissociation).
Conclusion: The PPO profile is not associated to the risk of developing psychosis.

KEYWORDS
detection, personality, psychosis, ultrahigh risk

1 | INTRODUCTION

In the last decade, researchers have been able to detect a group of help-seeking individuals with subclinical psychotic symptoms and social decline who are at risk of developing a first episode of psychosis. A first episode of psychosis will be developed by 36% of this ultrahigh risk population (UHR) within 3 years (Fusar-Poli et al., 2012).

Estimates of the incidence and prevalence of psychotic experiences obtained from 61 cohorts revealed a median annual incidence of 2.5% and a prevalence of 7.2%. Meta-analysis of risk factors identified age, minority or migrant status, income, education, employment, marital status, alcohol use, cannabis use, stress, urbanicity and family history of mental illness as important predictors of psychotic experiences (Linscott & van Os, 2013). Childhood abuse is also a causal risk factor in the development of psychosis in adulthood (Varese et al., 2012). Because early life events also shape the development of personality, the level of personality organization might be a risk factor for the development of subclinical psychotic symptoms. Personality Organization (PO) can be described as a relative stable structure, consisting of various inner representations of early relationships of the self with significant others, including the affective quality of these relationships. The different levels of PO reflect the extent to which inner representations of self and others are differentiated and integrated, the level of maturity of defences and the extent to which reality testing is intact. (Kernberg, 1984).

Kernberg hypothesized a high level of organization, (neurotic personality organization, NPO), an intermediate level of organization (borderline personality organization, BPO) and the psychotic personality organization (PPO). Patients with PPO are assumed to have weak boundaries between self and others, and to have severely impaired reality testing. Eurelings-Bontekoe et al. developed the Dutch Short Form of the MMPI (DSFM) that is aimed at capturing structural features of personality (Eurelings-Bontekoe, Luyten, Remijsen, & Koelen, 2010). The DSFM consists of 5 subscales: negativism, somatization, shyness, severe psychopathology and extraversion. By combining 3 of the subscales, patients may be classified as either with NPO, BPO or PPO. Several studies have provided support for the validity of the DSFM theory driven profile interpretation to capture features of structural personality pathology (Eurelings-Bontekoe et al., 2009; Eurelings-Bontekoe, Luyten, & Snellen, 2009).

This study aims to determine whether the psychotic personality organization, is more prevalent in patients with UHR status compared to a group of non-psychotic psychiatric patients. Sensitivity and specificity of PPO to detect the UHR status will be determined.

TABLE 1 Demographic characteristics of the UHR and NPPC sample

	UHR		NPPC				
	Male	Female	Male	Female	X^2	Df, *N*	*P*
Gender	20	53	35	84	0.09	1, 192	0.764
	Mean	SD	Mean	SD	*t*	Df	P
Education	4.48	1.63	3.38	1.58	0.38	186	0.705
Age[a]	25.9	5.0	43.2	10.9	14.89	189	<0.001

Abbreviations: NPPC, non-psychotic psychiatric controls; UHR, ultrahigh risk.

[a] Equal variances not assumed.

2 | METHODS

2.1 | Measurement instruments

1. UHR status: Comprehensive Assessment of At Risk Mental States (Yung et al., 2005).
2. Personality profiles and symptom domains: Dutch short-form of the MMPI (Eurelings-Bontekoe, Luyten, & Snellen, 2009; Luteijn & Kok, 1985).

2.2 | Statistical methods

Cross-tabs were conducted to test the distribution of the personality organization types among UHR and NPPC patients. *T*-tests were conducted to compare the total symptom scores between UHR and NPPC. Sensitivity and specificity were calculated to estimate the validity of the personality profiles in detecting people at risk for developing psychosis. In addition, the non-parametric Mann-Whitney *U* test was conducted to test sub scale differences between NPPC and UHR patients and also to test differences between NPPC and UHR patients on the item level.

2.3 | Procedure

All measurements were part of the routine mental health services. The DSM-IV diagnoses of the non-psychotic psychiatric control subjects (NPPC) were assessed by the treating psychiatrist. The UHR status was assessed with the comprehensive assessment of at risk mental state interview by experienced raters of the early intervention services. Both groups were assessed with the Dutch short-form of the MMPI.

2.4 | Participants

A total of 73 UHR subjects were recruited at Parnassia Haaglanden between 2012 and 2013 as part of the Early Detection and Intervention Services.

A total of 119 NPPC subjects were recruited at BAVO-Europoort in Rotterdam in the Netherlands. About 59.3% of the patients had mood disorder and 14.2% had anxiety disorders. The demographical characteristics are compared in Table 1. The UHR group is younger than the NPPC group.

3 | RESULTS

3.1 | Different personality organization types

The main hypothesis was that the DSFM psychotic personality organization profile would be more prevalent in the UHR group. The results are shown in Table 2. The Pearson χ^2 was not statistically significant (χ^2 = 1.717, *P* = .424). The different levels of PO are equally distributed among the 2 groups and did not differentiate between NPPC and UHR patients with subclinical psychotic symptoms.

The sensitivity to detect UHR patients (true positive rate) with the PPO profile was 50%; the specificity to detect non-cases (true negative rate) was 63%.

3.2 | Differences on the total and subscales of the MMPI

In comparison to the NPPC group, the UHR group showed much higher DSFM total scores (normally distributed; *t* = 4.695 [df = 240], *P* < .001), indicating a greater general symptom load. None of the 5 sub scales had a normal distribution, therefore non-parametric tests were conducted. In Table 3 results of the Mann-Whitney *U* test are shown. Negativism (negative affect), somatization (vague physical complaints) and severe psychopathology (psychotic symptoms and dissociation) were significantly higher in the UHR group than in the NPPC group.

On the item level we observed more severe psychopathology in the UHR group on psychotic items (visual hallucinations, persecutory

TABLE 2 Personality organization profiles in the NPPC and UHR group

		Group		
Personality organization profile		UHR	NPPC	Total
Neurotic organization	Count	10	24	34
	Expected count	12.8	21.2	34.0
Borderline organization	Count	54	85	139
	Expected count	52.4	86.6	139.0
Psychotic organization	Count	5	5	10
	Expected count	3.8	6.2	10.0
Total	Count	69	114	183
	Expected count	69.0	114.0	183.0

Abbreviations: NPPC, non-psychotic psychiatric controls; UHR, ultrahigh risk.

TABLE 3 Mann-Whitney *U* tests of differences between NPPC and UHR psychiatric patients on the subscale of the Dutch short-form of the MMPI

Sub scale	Median NPPC	Median UHR	*U*	*Z*	*P* (2-tailed)
Negativism	26	32	3065	−2.96	***P* = .003**
Somatisation	16	24	2841	−3.71	***P* < .001**
Shyness	16	20	3603	−1.47	*P* = .143
Psychopathology	4	7	2797	−381	***P* < .001**
Extraversion	14	14	4130	0.0	*P* = 1.00

Abbreviations: MMPI, Minnesota Multiphasic Personality Inventory; NPPC, non-psychotic psychiatric controls; UHR, ultrahigh risk.

ideas, auditory hallucinations, people making mean and insulting remarks); more aggression (urge to curse, urge to destroy, cause harm or disrespect); more somatic complaints (nausea and vomiting, headache, stomach pain, dizziness, pain); more sleeping problems (waking up easily, nightmares, disturbed sleep); lower social functioning (declined vocational performance, no contact with strangers, sweating when shy, daydreaming, hard to make friends, avoiding contact in public transportation) and more health issues (declined general health, declined home life).

4 | DISCUSSION

The hypothesized psychotic personality organization was not more prevalent in the UHR group than in the NPPC group. Only 7.2% of the UHR had a PPO, while 92.8% was not classified as such. Sensitivity (50%) and specificity (63%) of the profile were quite low. The PPO profile derived from the Dutch Short Form of the MMPI appears of no use to detect people at risk for developing psychosis. In fact, UHR patients may show various types of personality organization, which suggests that, as far as personality is concerned, this group is heterogeneous. This is in line with other studies on the association between psychiatric conditions and level of PO. For example, Luyten and Blatt have pointed to the considerable heterogeneity among patients with a DSM diagnosis of depression in terms of level of personality organization (Luyten & Blatt, 2007). Individuals who met criteria for UHR did have significantly higher severity scores on the DSFM. The UHR group scored higher on negativism, somatization and typical symptoms such as psychotic symptoms and showed problems with social and vocational functioning such as expected, as both are selection criteria in the definition of UHR. The higher negativism (while low negativism was predicted as part of the psychotic personality organization profile), probably reflects the higher severity and many co-morbid conditions in the UHR group. Unexpectedly, UHR patients tended to score very high on both *somatization* and *severe psychopathology* as compared to psychiatric patients in general. The combination of elevated scores correspond with the 38 out of 83 code of the MMPI-2: "the combination of these scales suggests an individual who may be defending against underlying psychotic thought processes with numerous defences" (page 292) (Friedman, Lewak, Nichols, & Webb, 2001).

Furthermore, the high level of somatization may also point to alexithymia as was found in a large sample of 5129 subjects from the general population in Finland (Mattila et al., 2008). The alexithymia factor scale "Difficulties Identifying Feelings" was the strongest common denominator in both alexithymia and somatization. And both alexithymia (van der Velde et al., 2015) and theory of mind deficits (Bora & Pantelis, 2013) are associated with the UHR status. We suggest that a high tendency to somatization may also probably reflect difficulties in identifying feelings as is often the case in psychotic patients.

4.1 | Limitations

This study compared psychiatric patients with subclinical psychotic symptoms who met criteria for UHR with non-psychotic psychiatric patients mostly diagnosed with mood and anxiety disorders. As UHR status was not assessed in the psychiatric controls, about 5% of the control patients probably had an UHR status as well (van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009). Despite the possibility of psychotic symptoms in the NPPC group, the UHR group showed significantly more hallucinations and paranoid ideation than the NPPC group.

To conclude on the findings, the prevalence of the DSFM psychotic personality profile was not greater in patients with subclinical psychotic symptoms who met criteria for UHR compared to in non-psychotic psychiatric patients. In fact, the group of UHR patients was heterogeneous regarding level of personality organization. If we consider the UHR status as the golden standard for prediction of risk for developing a psychotic disorder, the PPO profile failed to predict impending risk of psychosis in non-psychotic patients.

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