INPLASY

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A scoping review of Person Characteristics associated with Negative Symptoms of Psychosis

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective In the current scoping review, we aim to delineate the current evidence for person characteristics in the development and maintenance of negative symptoms and identify the gaps in the research. Following Bronfenbrenner's ecological systems theory of development, development occurs through the interaction between a person with specific characteristics and an ecosystem. The current scoping review focuses on these person characteristics, that may impact the way people interact with their environment. These include resource characteristics that help or limit the capability of a person to interact with the environment, such as knowledge, ability and skills or limiting characteristics such as history of illness, vulnerability, and previous experiences. Force characteristics are those that initiate or interrupt interactions with the context, including temperamental characteristics such as curiosity and openness versus distractibility or hostility. Finally, some characteristics may impact the way other people interact with you (demand characteristics), including age, gender, ethnicity, or socio-economic status. The current review aims to identify which of these person characteristics have been associated with NS and identify potential gaps in the literature.

Rationale Psychotic disorders such as schizophrenia are amongst the most severe mental disorders, affecting up to 3% of the population[1], mostly adolescents and young adults[2]. Psychotic disorders constitute a major individual, family, and public health problem, and are a leading cause of Years Lived with Disability. Whereas research to date has mainly focused on the so-called 'positive' symptoms (PS) of psychosis, such as hallucinations and delusions, much less research has been dedicated to the 'negative' symptoms (NS), such as amotivation and affective flattening. Yet, NS are most strongly associated with poorer

illness outcomes, including worse global and social functioning. This is echoed by people with lived experience, who identified NS as being the most disabling and the prime target for treatment. Research on the pathogenesis of negative symptoms (NS) in individuals diagnosed with psychotic disorders has mostly focused on specific biological or cognitive deficits within the person, overlooking the importance of contextual factors and the role of specific person characteristics in their interaction with the context. This contrasts with theories concerning positive symptoms of psychosis, which underscore the influence of developmental and environmental factors on the onset of positive symptoms. Strauss proposed a bio-ecosystem theory of NS based on Bronfenbrenner's influential ecological systems theory. This theory posits that development occurs through the interaction between a person with specific characteristics and an ecosystem. These person characteristics impact the way people interact with their environment. They include resource characteristics that help or limit the capability of a person to interact with the environment, such as knowledge, ability and skills or limiting characteristics such as history of illness, vulnerability, and previous experiences. Force characteristics are those that initiate or interrupt interactions with the context, including temperamental characteristics such as curiosity and openness versus distractibility or hostility. Finally, some characteristics may impact how other people interact with you (demand characteristics), including age, gender, ethnicity, or socio-economic status. The most investigated person characteristic related to NS is deficits in social cognition. Since social cognition has been extensively documented in relation to negative symptoms, this person characteristic is beyond the scope of the current review.

Condition being studied The condition being studied is psychosis.

METHODS

Search strategy The search strategy has been developed, with support from a qualified librarian. The key concepts of our research question relate to:

1) Resource characteristics
2) Force characteristics
3) Demand characteristics
4) Negative Symptoms
5) Psychosis

Pubmed

Demand:
"Age Factors"[Mesh] OR "Age Factor*"[tiab] OR "Aged"[Mesh] OR "Adult"[Mesh] OR "Adult"[tiab] OR "Middle Aged"[Mesh] OR "Adolescent"[MeSH] OR "chronological age"[tiab] OR "childhood"[tiab] OR "Female*"[Mesh] OR "Male*"[Mesh] OR "Sex Factor*"[tiab] OR "gender"[tiab] OR "women"[tiab] OR "men"[tiab] OR "Ethnicity"[Mesh] OR "Asian People"[Mesh] OR "Black People"[Mesh] OR "White People"[Mesh] OR "Minority Groups"[Mesh] OR "Race Factors"[Mesh] OR "minority group*"[tiab] OR "ethnic inequality*"[tiab] OR "race*"[tiab] OR "racism"[tiab] OR "migrants"[tiab] OR "migration"[tiab] OR "cultural factor*"[tiab] OR "ethnic difference*"[tiab] OR "ethnic group*"[tiab] OR "race difference*"[tiab] OR "Sexual Behavior"[Mesh] OR "Sexuality"[Mesh] OR "sexual orientation"[tiab] OR "sexual behavior"[tiab]
Resource:
"Intellectual Disability"[Mesh] OR "IQ"[tiab] OR "mental function*"[tiab] OR "Educational Status"[Mesh] OR "education"[tiab] OR "intellect"[tiab] OR "intelligence quotient"[tiab] OR "emotional intelligence"[tiab] OR "intellectual ability*"[tiab] OR "intellectual capability*"[tiab] OR "intellectuality"[tiab] OR "intelligence model*"[tiab] OR "education"[Mesh] OR "academic achievement*"[tiab] OR "continuing education*"[tiab] OR "learning environment*"[tiab] OR "primary education*"[tiab] OR "school*"[tiab] OR "secondary education*"[tiab] OR "educational status*"[tiab] OR "Psychological Trauma"[Mesh] OR "Stress Disorders, Traumatic"[Mesh] OR "psychotrauma*"[tiab] OR "emotional damage*"[tiab] OR "emotional injury*"[tiab] OR "mental damage*"[tiab] OR "mental harm"[tiab] OR "mental trauma*"[tiab] OR "psychological trauma*"[tiab] OR "psychological damage*"[tiab] OR "psychological harm*"[tiab] OR "psychological injury*"[tiab] OR "psychological trauma"[tiab] OR "Substance-Related Disorders/diagnosis"[Mesh] OR "substance abuser*"[tiab] OR "drug abuse*"[tiab] OR "alcohol abuse*"[tiab] OR "drug*"[tiab] OR "alcohol*"[tiab] OR "cannabis abuse*"[tiab] OR "cannabis"[tiab] OR "addiction*"[tiab] OR "cannabis addiction*"[tiab] OR "cannabis dependence*"[tiab] OR "alcohol dependence*"[tiab] OR "marijuana"[tiab] OR "marijuana abuse*"[tiab] OR "mental disorders/history"[Mesh] OR "anamnesis"[tiab] OR "family history"[tiab] OR "medical history taking"[tiab] OR "medical interview"[tiab] OR "patient history taking"[tiab] OR "family anamnesis"[tiab] OR "family medical history"[tiab] OR "Mental Health"[Mesh] OR "mental health comorbidity"[tiab] OR "mental care"[tiab] OR "mental state"[tiab] OR "mental state"[tiab] OR "mental status"[tiab]

Force:
"Personality"[Mesh] OR "Personality Inventory"[MeSH] OR "Personality Disorders"[Mesh] OR "personality*"[tiab] OR "personality characteristic*"[tiab] OR "personality pattern*"[tiab] OR "personality structure*"[tiab] OR "personality type*"[tiab] OR "personhood"[tiab] OR "self-concept"[tiab] OR "Exploratory Behavior"[Mesh] OR "Hostility"[Mesh] OR "distractibility"[tiab] OR "openness"[tiab] OR "Schizotypal personality disorder"[MeSH] OR "neuroticism"[Mesh] OR "agreeableness"[tiab] OR "harm avoidance"[tiab] OR "extraversion"[tiab] OR "approach"[tiab] OR "avoidance"[tiab]

Negative symptoms:
"negative symptom*"[tiab] OR "Apathy"[Mesh] OR "apathy"[tiab] OR "Anhedonia"[Mesh] OR "anhedonia"[tiab] OR "affective flattening"[tiab] OR "Aphasia"[Mesh] OR "aphasia"[tiab] OR "dysphasia"[tiab] OR "alogia"[tiab] OR "avolition"[tiab] OR "asocial*"[tiab] OR "diminished expression"[tiab] OR "deficit symptoms"[tiab] OR "affective blunting"[tiab] OR "blunted expression"[tiab] OR "blunted affect"[tiab]

Psychosis:
"Psychotic Disorders"[Mesh] OR "psychosis"[tiab] OR "psychoses"[tiab] OR "at risk mental state"[tiab] OR "psychotic"[tiab] OR "Schizophrenia"[Mesh] OR "schizophrenic form"[tiab]

Embase
Demand:
'age'/exp OR 'age factor':ti,ab,kw OR 'aged':ti,ab,kw OR 'adult'/exp OR 'adult':ti,ab,kw OR 'middle aged'/exp OR 'young adult'/exp OR 'adolescent':ti,ab,kw OR 'chonological age':ti,ab,kw OR 'childhood':ti,ab,kw 'female'/exp OR 'male'/exp OR 'sex factor':ti,ab,kw OR 'gender'/exp OR 'women':ti,ab,kw OR 'men':ti,ab,kw OR 'Ethnicity'/exp OR 'asian'/exp OR 'black'/exp OR 'white'/exp OR 'minority group'/exp OR 'ethnic inequality':ti,ab,kw OR 'race':ti,ab,kw OR 'racism':ti,ab,kw OR 'migrants':ti,ab,kw OR 'migration':ti,ab,kw OR 'cultural factor':ti,ab,kw OR 'ethnic difference':ti,ab,kw OR 'ethnic group':ti,ab,kw OR 'race difference':ti,ab,kw OR 'sexual behavior'/exp OR 'sexuality'/exp OR 'sexual orientation':ti,ab,kw OR 'sexual behavior':ti,ab,kw

Resource:
'intelligence'/exp OR 'IQ':ti,ab,kw OR 'mental fucntion':ti,ab,kw OR 'educational status':ti,ab,kw OR 'education'/exp OR 'education':ti,ab,kw OR 'intellect':ti,ab,kw OR 'intelligence quotient':ti,ab,kw OR 'emotional intelligence':ti,ab,kw OR 'intellectual ability':ti,ab,kw OR 'intellectual capability':ti,ab,kw

OR 'intellectuality':ti,ab,kw OR 'intelligence model':ti,ab,kw OR 'academic achievement':ti,ab,kw OR 'school':ti,ab,kw OR 'secondary education':ti,ab,kw OR 'educational status':ti,ab,kw OR 'continuing education':ti,ab,kw OR 'learning enviroment':ti,ab,kw OR 'primary education':ti,ab,kw OR 'psychotrauma'/exp OR 'anxiety disorder'/exp OR 'emotional damage':ti,ab,kw OR 'emotional injury':ti,ab,kw OR 'mental damage':ti,ab,kw OR 'mental harm':ti,ab,kw OR 'mental trauma':ti,ab,kw OR 'psychological trauma':ti,ab,kw OR 'psychological injury':ti,ab,kw OR 'substance abuse'/exp OR 'substance abuser':ti,ab,kw OR 'drug abuse':ti,ab,kw OR 'alcohol abuse':ti,ab,kw OR 'drug':ti,ab,kw OR 'alcohol':ti,ab,kw OR 'cannabis abuse':ti,ab,kw OR 'cannabis':ti,ab,kw OR 'addiction':ti,ab,kw OR 'cannabis addiction':ti,ab,kw OR 'cannabis dependence':ti,ab,kw OR 'alcohol dependece':ti,ab,kw OR 'marijuana':ti,ab,kw OR 'marijuana abuse':ti,ab,kw OR 'mental disease'/exp OR 'anamnesis':ti,ab,kw OR 'family history':ti,ab,kw OR 'medical history taking':ti,ab,kw OR 'medical interview':ti,ab,kw OR 'patient history taking':ti,ab,kw OR 'family anamnesis':ti,ab,kw OR 'family medical history':ti,ab,kw OR 'mental health'/exp OR 'mental health comorbidity':ti,ab,kw OR 'mental care':ti,ab,kw OR 'mental state':ti,ab,kw OR 'mental status':ti,ab,kw

Force:
'personality'/exp OR 'personality test'/exp OR 'personality disorder'/exp OR 'personality':ti,ab,kw OR 'personality characteristic':ti,ab,kw OR 'personality pattern':ti,ab,kw OR 'personality structure':ti,ab,kw OR 'personality type':ti,ab,kw OR 'personhood':ti,ab,kw OR 'self-concept':ti,ab,kw OR 'exploratory behavior'/exp OR 'hostility'/exp OR 'distractibility':ti,ab,kw OR 'openness':ti,ab,kw OR 'schizotypal personality disorder'/exp OR 'neurosis'/exp OR 'agreeableness':ti,ab,kw OR 'harm avoidance':ti,ab,kw OR 'extraversion':ti,ab,kw OR 'approach':ti,ab,kw OR 'avoidance':ti,ab,kw

Negative symptoms:
'negative syndrome'/exp OR 'negative symptom*':ti,ab,kw OR 'apathy'/exp OR 'apathy':ti,ab,kw OR 'anhedonia'/exp OR 'anhedonia':ti,ab,kw OR 'affective flattening':ti,ab,kw OR 'aphasia'/exp OR 'aphasia':ti,ab,kw OR 'dysphasia'/exp OR 'dysphasia':ti,ab,kw OR 'alogia':ti,ab,kw OR 'avolition':ti,ab,kw OR 'asocial*':ti,ab,kw OR 'diminished expression':ti,ab,kw OR 'deficit symptoms':ti,ab,kw OR 'affective blunting':ti,ab,kw OR 'blunted expression':ti,ab,kw OR 'blunted affect'/exp OR 'blunted affect':ti,ab,kw

Psychosis:
'psychosis':ti,ab,kw OR 'psychoses':ti,ab,kw OR 'at risk mental state':ti,ab,kw OR 'psychotic':ti,ab,kw OR 'psychosis'/exp OR 'schizophrenia'/exp OR 'schizophrenic form':ti,ab,kw

The search strings for Web of Science core collection and for Psycharticles can be found on the OSF page https://osf.io/pjnhm/

We will pilot the search strategy to allow refinement.

Participant or population Patients with a psychotic, schizophrenic or schizophreniform disorder, but also participants with sub-clinical levels of psychosis or at-risk mental states for psychosis.

Intervention NA.

Comparator NA.

Study designs to be included Given that this is a scoping review, we will not select on study designs.

Eligibility criteria 1) Inclusion Criteria:- Cross-sectional and longitudinal studies investigating the association between person characteristics and both clinical and subclinical levels of negative symptoms. Negative symptoms will be defined as one or a combination of the 5 core Negative Symptoms defined at the American MATRICS consensus meeting in 2005: a flattening of emotional expression, both in facial expression and voice (blunted affect), a reduction in the amount of speech (alogia), a lack of drive and motivation to engage in activities (avolition), a reduction in social contacts (asociality), and a reduced capacity to experience pleasure (anhedonia – since reconceptualised as a reduced capacity to anticipate pleasure).- Resource characteristics will include education level, IQ, history of trauma, substance use, illness history & severity, family history of mental illness.- Force characteristics will include personality traits, and approach and avoidance tendencies- Demand characteristics will include age, gender, ethnicity and sexual orientation.2) Exclusion criteria- Studies that do not include patients with psychosis- Studies that do not examine the association between negative symptom/s and person characteristics- Studies that examine the association between negative symptom/s and social cognition only - Not empirical (e.g., protocols, perspectives/opinions), not original

research (e.g., reviews, meta-analyses), not published in a peer-reviewed journal, and not published in the English language. Once we have become more familiar with the literature, we may decide on some post-hoc inclusion and exclusion criteria, which we will document and transparently report as deviations to this registration.1) Inclusion Criteria:- Cross-sectional and longitudinal studies investigating the association between person characteristics and both clinical and subclinical levels of negative symptoms. Negative symptoms will be defined as one or a combination of the 5 core Negative Symptoms defined at the American MATRICS consensus meeting in 2005: a flattening of emotional expression, both in facial expression and voice (blunted affect), a reduction in the amount of speech (alogia), a lack of drive and motivation to engage in activities (avolition), a reduction in social contacts (asociality), and a reduced capacity to experience pleasure (anhedonia – since reconceptualised as a reduced capacity to anticipate pleasure).2) Exclusion criteria- Studies that do not include patients with psychosis- Studies that do not examine the association between negative symptom/s and person characteristics- Studies that examine the association between negative symptom/s and social cognition only - Not empirical (e.g., protocols, perspectives/opinions), not original research (e.g., reviews, meta-analyses), not published in a peer-reviewed journal, and not published in the English language. Once we have become more familiar with the literature, we may decide on some post-hoc inclusion and exclusion criteria, which we will document and transparently report as deviations to this registration.

Information sources We will search the following electronic databases: PubMed, Web of Science Core Collection (via Clarivate), Embase (via Elsevier), Psycharticles (via ProQuest)
We will then search the reference lists of all papers included in the review.

Main outcome(s) Negative symptoms, defined as one or a combination of the 5 core Negative Symptoms defined at the American MATRICS consensus meeting in 2005 including: a flattening of emotional expression, both in facial expression and voice (blunted affect), a reduction in the amount of speech (alogia), a lack of drive and motivation to engage in activities (avolition), a reduction in social contacts (asociality), and a reduced capacity to experience pleasure (anhedonia – since reconceptualised as a reduced capacity to anticipate pleasure), are the main outcome. This includes both clinical and subclinical measures of negative symptoms,

assessed with standardized/validated measures of negative symptoms.

Additional outcome(s) NA.

Data management After constructing the search strategy and building the search strings on the corresponding databases, all the results will be uploaded in Rayyan (www.rayyan.ai). Rayyan is a platform that allows researchers to perform data collection simultaneously in a blinded way. First, all titles/abstracts will be screened by one reviewer. Full-text articles will be assessed by two independent reviewers (AM and EVG). If the researchers do not reach the same decision regarding inclusion/exclusion, a third member of the team (JB or IMG) will have a meeting with the independent reviewers to reach a consensus on in- or exclusion.

Quality assessment / Risk of bias analysis Given that this is a scoping review, no quality assessment or risk of bias analysis will be conducted.

Strategy of data synthesis Following the framework of Arksey & O'Malley, and guided by the theoretical framework of Bronfenbrenner, we will chart the key items of information from the research reports reviewed for the 3 person characteristics separately. We will use a descriptive-analytic approach (within the narrative tradition), which involves applying a common analytical framework to all the primary research reports and collecting standard information on each study. This will include Authors, year of publication, study location, Study population (subclinical/psychosis/psychotic disorder/schizophrenia or schizophreniform disorder), Force Person characteristics, Demand Person characteristics, Resource Person Characteristics, Negative Symptoms, Study Type, and Important Results. We then will present a narrative account of the findings. This will include a basic numerical analysis of the extent, nature and distribution of the studies included in the review, as well as tables and charts. This part of the analysis will facilitate an understanding of the main areas that have been investigated and identify the research gaps. Second, the literature will be organized thematically, with the 3 person-factors as the core themes. If possible, we will also identify sub-themes to capture different facets of demand, resource and force characteristics currently investigated in relation to each negative symptom.

Subgroup analysis NA.

Sensitivity analysis NA.

Language restriction English.

Country(ies) involved Belgium, Australia.

Other relevant information NA.

Keywords negative symptoms, psychosis, person characteristics, demand characteristics, force characteristics, resource characteristics.

Dissemination plans The scoping review will be preprinted and submitted to an international peer-reviewed journal.

Contributions of each author
Author 1 - Inez Myin-Germeys - Author 1 drafted the preregistration, will supervise the data-selection and data-extraction, and will draft the final manuscript.
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Author 2 - Joanne Beames - Author 2 reviewed the preregistration and the search strategy, will supervise the data-extraction and interpretation, will review and comment on the final draft of the manuscript.
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Author 3 - Marilena Maidan - Author 3 has reviewed the preregistration, has developed the search strategy, will do the paper-selection and data-extraction, will do the data-analysis, will review the final draft of the manuscript.
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