DOCTORAL THESIS

Clinical Personality Traits in High Risk and Recent Onset of Psychosis Patients

Julia R. Sevilla Llewellyn-Jones

Directors:
Dr. Berta Moreno Küstner
Dr. Susana Ochoa Güerre

UNIVERSIDAD DE MÁLAGA

Málaga, 2018
Programa de Doctorado en Psicología
Facultad de Psicología
Universidad de Málaga

UNIVERSIDAD
DE MÁLAGA

AUTOR: Julia Rebeca Sevilla Llewellyn-Jones

http://orcid.org/0000-0002-9582-3389

EDITA: Publicaciones y Divulgación Científica. Universidad de Málaga

Dña Berta Moreno Küstner con DNI 25050534-S, profesora titular/doctora del Departamento de Personalidad, Evaluación y Tratamiento Psicológico de la Facultad de Psicología de la Universidad de Málaga, y Dña Susana Ochoa, Coordinadora de la Unidad de Investigación del Parc Sanitari Sant Joan de Déu.

Certifican que la tesis titulada **Clinical Personality Traits in High Risk and Recent Onset of Psychosis Patients** desarrollada por Julia Rebeca Sevilla Llewellyn-Jones DNI: 53657599-W ha sido realizada bajo nuestra dirección y que cumple con los criterios necesarios, y que por tanto autorizan su depósito y defensa pública.

En Málaga, a 15 de febrero de 2018

Fdo. Fdo.

Dra. Berta Moreno Küstner
Profesora Titular
Dpto. Personalidad, Evaluación y
Tratamiento Psicológico.
Facultad de Psicología
Universidad de Málaga

Dra. Susana Ochoa Güerre
Coordinadora de la Unidad de Investigación
Parc Sanitari Sant Joan de Déu
Sant Boi de Llobregat, Barcelona

Clinical Personality Traits in High Risk and Recent Onset of Psychosis Patients

Doctoral thesis

Julia R. Sevilla Llewellyn-Jones

Directors:

Dr. Berta Moreno Küstner

Dr. Susana Ochoa Güerre

Málaga, 2018

Facultad de Psicología. Universidad de Málaga

A mis padres, José y Jennifer, y a mi marido, Pedro, por vuestro apoyo y confianza incondicional.

Agradecimientos/Acknowledgement

Son muchas las personas y las razones por las que esta tesis hoy puede estar publicada. También es, como cabe esperar mucho el tiempo y las historias que recuerdo ahora que escribo estas líneas.

Parece que fue ayer cuando al empezar la residencia de psicología clínica decidí realizar la tesis. Todo parecía sencillo: estaba en un hospital, tenía facilidad para coger pacientes, algo de práctica en investigación e infita ilusión y ganas de trabajar. Pero aquí, realmente, tras mi decisión, empezaba un largo camino donde en cada etapa muchas personas han sido muy importantes por diferentes causas, y por las que hoy creo que es importante parar y daros las gracias, por permitirme estar aquí sentada escribiendo las últimas líneas de mi tesis.

Gracias a mis directoras de tesis Berta Moreno y Susana Ochoa. Gracias Susana porque en este tiempo, guardando todo el respeto que te tengo, aparte de en mi directora también te has convertido en mi amiga. Gracias por hacer que Sant boi de Llobregat fuese la puerta de al lado de Málaga. Gracias por tu disponibilidad, tu amabilidad y tu capacidad resolutiva. Gracias también a tu familia, “al” Juanra por sus mixtos o “bikinis”, a “la” Aimara por colorear hadas mientras hablábamos y “al” Didac, porque aunque no lo sepa él ha estado muy presente en toda la realización. A día de hoy soy incapaz de pensar en mejor opción como directora de tesis que tú.

Gracias a todas las personas que han formado parte de mi formación como psicóloga clínica, por apoyarme de una manera u otra en este proceso. Gracias César, por compartir conmigo tu modo de entender la psicología, Belén, mi tutora de residencia, por apoyarme y confiar en mi en estos cuatro años de la manera en la que lo

has hecho, y a todos los adjuntos del Hospital Clínico Virgen de la Victoria que han sido parte de mi formación. Obviamente, tengo que dar especialmente las gracias al equipo de Hospital de Día del Cónsul. A Alberto, psiquiatra del hospital de día, la primera persona que me apoyó y me abrió las puertas para comenzar la investigación en primeros episodios psicóticos; a Pablo, psiquiatra y coordinador; y a Toñi, psicóloga clínica del hospital de día. Sin vosotros y sin vuestra cooperación esta tesis no sería posible. También gracias a todos los pacientes con los que he trabajado en estos años, no os podéis imaginar lo que he aprendido de cada uno de vosotros. Gracias sobre todo a los pacientes del hospital de día por su generosidad, por cedernos su tiempo y permitir que se publicasen estos datos, mis mejores deseos en vuestro proceso de rehabilitación.

Gracias también a Mario Álvarez, por abrirme las puertas de Orygen, The National Centre of Youth Mental Health, y de tu equipo. Por enseñarme tu modo de trabajar y tu ilusión. Estar allí fue una gran experiencia. También me gustaría darte las gracias a ti, Jesús Pérez, trabajar contigo en CAMEO Early Intervention in Psychosis Service en Cambridge fue un lujo, y que nuestro trabajo allí forme parte de mi tesis, un honor.

A nivel más personal me gustaría dar las gracias a mis amigos, porque de una manera u otra han formado parte de este proyecto. Gracias a Luchi, Javi, Juan, Ramón, y a otros tantos que han compartido risas y anécdotas en este tiempo: Eva, Ali, Miguel, Antonella, Tania, Luis, Sarah, Ester y Gallego.

Sobre todo gracias a mis padres Jennifer y José, y a mi marido Pedro. Mis personas de referencia y mi apoyo incondicional. A mis padres, podría agradeceros infinidad de cosas, pero en este momento quiero daros las gracias por apoyarme en cada proyecto y conseguir crear la confianza que tengo en mí a través de la que vosotros

siempre habéis depositado. Gracias a ti, Pedro. Gracias por hacer de mis proyectos los tuyos, y construir conmigo el nuestro. Gracias por allanar cada bache que había en el camino, y recorrerlo a mi lado de la manera en la que lo has hecho.

Gracias a todas y cada una de las personas que nombro, porque esta tesis me hace doctora en psicología a mí y en parte a todos vosotros.

Foreword

This dissertation entitled *Clinical Personality Traits in High Risk and Recent Onset of Psychosis Patients* is presented in fulfillment of the requirements for the Degree of Doctor with the International Doctorate Mention in the Faculty of Psychology at the University of Malaga (Málaga, Spain). The thesis is composed of 4 studies; the first 3 studies include a sample of recent onset of psychosis patients and have been prepared under the direct supervision of Dr. Susana Ochoa Güerre, in the Parc Sanitari Sant Joan de Déu at the Sant Joan de Déu Hospital (Barcelona, Spain) and Dr. Berta Moreno Küstner, in the Malaga University (Málaga, Spain). The last study consists of a sample of High Risk individuals and has been prepared under the direct supervision of Dr. Jesús Pérez, at CAMEO Early Intervention in Psychosis Service, Cambridgeshire and Peterborough National Health Service Foundation (Cambridge, United Kingdom) and Dr. Susana Ochoa Güerre, PhD. These studies are part of a novel line of investigation that examines clinical personality traits in patients at high risk and recent onset of psychosis. The studies presented in this dissertation are:

1) Study 1: Personality traits in recent onset of psychosis patients compared to a control sample by gender.
2) Study 2: Personality traits and psychotic symptoms in recent onset of psychosis patients.
3) Study 3: Subjective quality of life in recent onset of psychosis patients, and its association with sociodemographic variables, psychotic symptoms and clinical personality traits.
4) Study 4: Clinically significant personality traits in individuals at high risk of developing psychosis.

National and international research stays

The author of this thesis has broadened her knowledge about recent onset of psychosis and high risk populations, in both clinical and research domains, during four research stays.

- ✓ Department of Online Intervention & Innovation, Orygen the National Centre of Youth Mental Health, University of Melbourne (Melbourne, Australia), supervised by Dr. Mario Álvarez-Jiménez. This is a centre of reference in the study of high risk and recent onset of psychosis. During the stay, the author of this thesis collaborated in the production of clinical material for an online platform. In addition, she actively collaborated in the developers' meetings of this platform. Likewise, she received clinical training in different workshops related to rehabilitation in psychosis and did a meta-analysis on mindfulness under the supervision of Dr. Álvarez-Jiménez from which she wrote a manuscript that is under review at the present moment.
- ✓ Department of Research of the Adolescent Psychiatry Unit, Gregorio Marañón University Hospital (Madrid, Spain), supervised by Dr. María Mayoral. This is a reference centre in the study about First Epsiode of psychosis of early onset with broad experience in regard to clinical, structural and brain functioning variables, treatment, metabolism and neurocognition. During the stay, the author of this thesis carried out clinical activities of inpatient clinical cases supervised by clinicians of the Adolescent Psychiatry Unit. Likewise, these activities were combined with the following research tasks: training activities in neurocognitive batteries and clinical

diagnosis tools, critical analysis of articles and participation in a research project, carrying out data analysis, and wording and review of research articles of different research projects in progress. This stay enabled the author of this thesis to improve her knowledge in the field of early-onset psychosis.

- ✓ CAMEO Early Intervention Service, University of Cambridge (Cambridge, United Kingdom). Supervised by Dr. Jesús Pérez. This is a reference centre in the study of high risk and first episode of psychosis. During this stay the author worked in the high risk research group and led a manuscript under the supervision of Dr. Pérez.
- ✓ Parc Sanitari Sant Joan de Déu at the Hospital Sant Joan de Déu (Barcelona, Spain). Supervised by Susana Ochoa Güerre. The author stayed in the research department of clinical, cognitive and psychosocial bases of severe mental disorders learning about research in first episode of psychosis that was being done.

List of abbreviations

16PF	Sixteen Personality Factor Questionnaire
APA	American Psychological Association
ARMS	All-risk mental state
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
BLIP	Brief limited intermittent psychotic episode
BPRS	Brief Psychiatric Rating Scale
BS	Basic Symptoms
CSPT	Clinically significant personality trait
CAQ	The Clinical Analysis Questionnaire
CAARMS	Comprehensive Assessment of At-Risk Mental States
CIDI	Composite International Diagnostic Interview
COPS	Criteria of Prodromal Syndromes
CPI	California Psychological Inventory
CPQ	Children's Personality Questionnaire
DIPD	The Diagnostic Interview for DSM-IV Personality Disorders
DSM-IV/ -5	Diagnostic and Statistical Manual –IV/ -5

DUP	Duration of untreated psychosis
e.g.	exempli gratia (for example)
EIS	Birmingham Early Intervention Service
EPPIC	Early Psychosis Prevention and Intervention Centre
EPQ	Eysenck Personality Questionnaire
ERIraos	Early Recognition Inventory for the retrospective assessment of the onset of schizophrenia
FEP	First episode of psychosis
FFM	Five-Factor model
GAF	General Assessment of Functioning
GRD	Genetic risk and deterioration syndrome
HR	High risk
HV	Healthy volunteer
ICD	International Classification of Diseases
IRAOS	Interview for the Retrospective Assessment of the Onset of Schizophrenia
JCR	Journal Citation Reports
MACI	Millon Adolescent Clinical Inventory
MAPI	Millon Adolescent Personality Inventory

MCMI-III	Millon Clinical Multiaxial Inventory-III
MINI	Mini-International Neuropsychiatric Interview
MIPS	Millon Index of Personality Styles
MMPI	Minnesota Multiphasic Personality Inventory
NEO-I	NEO-Inventory
NEO-PI-R	Revised NEO Personality Inventory
NEO-FFI	NEO Five Factor Inventory
PD	Personality disorder
PANSS	Positive and Negative Symptoms Scale
PAATH	Prospective Analysis of At-risk-mental-states and Transitions into Psychosis
QoL	Quality of life
ROP	Recent onset of psychosis
SANS	Scale for the Assessment of Negative Symptoms
SAPS	Scale for the Assessment of Positive Symptoms
SCAN	Schedules for Clinical Assessment in Neuropsychiatry
SCID-I/ -II	Structured Clinical Interview for DSM-IV-TR-I/-II
SCID-5-CV	Structured Clinical Interview for DSM-5 Disorders—Clinician Version
SIDP-R	Structured Interview for DSM-III-R Personality Disorders

SPI-A	Schizophrenia Proneness Instrument, adult version
SPSS	Statistical Package for the Social Sciences
TCI	Temperament and Character Inventory
UHR	Ultra high risk
UPS	Unspecified prodromal symptoms
WAIS-III	Wechsler Adult Intelligence Scale III
WHOQOL-Bref	World Health Organization Quality of Life Brief Scale

Table of contents

ABSTRACT

Background

Personality in psychosis is an underresearched area. However, its study has increased in the last couple of decades. The approach to personality can be made through different models. In this thesis we have approached personality through the Millon model which is a clinical approach that treats personality as a continuous dichotomous variable. The study of personality in patients with psychosis in this thesis has been made in the framework of the staging model considering the earliest phases, high risk and recent onset of psychosis.

Aims

This thesis has four main aims that have been presented in four different studies. Our first aim was to describe clinical personality traits in patients with recent onset of psychosis compared to a control sample and considering gender. In our second aim, we studied the relation between clinical personality traits and psychotic symptoms in a recent onset of psychosis patient sample. Our third aim, considering the same sample, we analysed the relation among quality of life, psychotic symptoms and clinical personality traits. Finally, as our fourth aim, we described the same personality traits and their clinical implication in a high risk sample.

Method

The method followed in each study is described as follows. In our first study, in order to describe clinical personality traits a descriptive, cross-sectional study was carried out in 94 patients consecutively recruited in two adult recent onset of pyschosis rehabilitation day programs and a matching gender and age control sample. The

meassures used were a sociodemographic and clinical questionnaire, the Millon Clinical Multiaxial inventory- III (MCMI-III) and the data analyses that were applied to make comparisons were T-student for independent samples, Mann-Whitney U test and Fisher tests. The second study was conducted with only the patient sample. The measures included were a sociodemographic clinical questionnaire, the MCMI-III, the Positive and Negative Syndrome Scale (PANSS), and the General Assessment of Functioning scale used to assess personality, symptoms and functioning. The data analyses conducted were correlational analysis, Mann–Whitney U test, and, finally, a logistic regression. Study 3 was conducted with 81 patients consecutively recruited in one of the adult recent onset of psychosis rehabilitation day programs (Malaga). The measures included were the MCMI-III, the PANSS, and the World Health Organization Quality of Life Brief Scale used to assess personality, symptoms, and quality of life respectively. Data analyses that were carried out were Pearson correlations and T student or Mann-Whitney U test (with non-parametrical data) and multiple linear regressions with stepwise method. Finally, the fourth study was a descriptive longitudinal study. This study was carried out in forty high risk individuals and a matched sample of 40 healthy volunteers. The measures considered were the MCMI-III, the PANSS, Beck Depression and Anxiety Inventories, Global Assessment of Functioning scale and Mini-International Neuropsychiatric Interview 6.0.0. Fisher's exact test, Mann-Whitney U test and logistic regression were used for the data analyses.

Results

In relation to the description of clinical personality traits proposed in study one all personality traits were significantly higher in the recent onset of psychosis sample than in the control participants, except histrionic, narcissistic, and compulsive traits which were higher in controls. Clinically significant schizoid, avoidant, dependent and

antisocial personality traits were more common in the recent onset of psychosis than the control participants. However, histrionic clinically significant trait was more common in the control sample. In relation to the male and female samples, more significant differences were found in the male sample in comparison to their control counterparts than in the female sample. The relations between symptoms and clinical personality traits proposed in study two were the following: the negative symptoms were higher in patients with schizoid traits. The excited symptoms were lower for those with avoidant and depressive traits. The anxiety and depression symptoms were higher for patients with dependent traits. The positive symptoms were lower for patients with histrionic and higher for patients with compulsive traits. Logistic regression demonstrated that gender and positive and negative symptoms explained part of the variance of the schizoid trait. The excited symptoms explained variance of avoidant trait. The anxiety and depression symptoms and age explained the dependent trait. Gender explained some variance of the histrionic, narcissistic and paranoid traits. Finally, gender and positive symptoms explained some variance of the compulsive trait. In study 3 quality of life was studied in relation to symptoms. Clinical personality traits correlations between the negative symptoms and the physical, psychological, and social domains of quality of life, and the disorganized symptoms and physical domain, were found. Furthermore, the physical, psychological, and social relationships domains of quality of life were lower in patients with schizoid traits and the psychological domain was lower in patients with depressive traits. In contrast, the psychological and social domains were higher in patients with histrionic traits, while the physical domain was higher for patients with narcissistic traits. Multiple linear regressions demonstrated that negative symptoms and narcissistic and depressive traits explained some variance of the physical domain. Narcissistic and depressive traits explained part of the variance of the

psychological domain. Finally, the negative symptoms and histrionic traits explained part of the social domain. In our last study some of the same variables were studied in a high risk sample. Most high risk individuals had at least one significant trait: mainly depressive, borderline or schizotypal. Only histrionic and narcissistic traits were more prevalent in healthy volunteers. Negative symptoms were related to schizoid and paranoid traits. Depression was more severe with borderline traits. Most high risk individuals had more than one Diagnostic statistical manual-IV Axis I diagnosis, mainly depressive/anxiety disorders. Transition rate was very low.

Discussion

Our first study results highlight the importance of the study of clinical personality traits in patients with recent onset of psychois and the importance of viewing these differences in relation to gender because of the possible therapeutic implications. In relation to this, the results of our second study highlight the importance of examining personality in patients with psychosis as it broadens understanding of the patients themselves and the symptoms suffered by them. The third study showed that quality of life seems to be better explained by negative psychotic symptoms and some clinical personality traits and therefore supports the importance of integrated intervention approaches that consider personality. Finally, our fourth study suggested that certain personality profiles may not be markers for conversions to psychosis but rather might be related with the high morbidity in high risk individuals.

Conclusion

This thesis supports the importance of exploring clinically significant personality traits in high risk and recent onset of psychosis as they seem to have an influence on psychiatric morbidity and functioning. Psychological interventions

focusing on underlying personality traits may provide another avenue to achieve symptom and functional recovery in people suffering from high risk and recent onset of psychosis.

RESUMEN

Introducción

La personalidad en psicosis es un área poco investigada. Sin embargo, su estudio ha aumentado en las últimas dos décadas. El estudio de la personalidad puede hacerse según diferentes modelos. En esta tesis lo hemos realizamos a través del modelo de Millon, el cual es un modelo clínico que considera la personalidad tanto como una variable continua como una dicotómica. El estudio de la personalidad en pacientes con psicosis en esta tesis ha sido realizado considerando el modelo de estadios en sus primeras fases, alto riesgo y psicosis de inicio temprano.

Objetivos

Esta tesis se compone de 4 objetivos principales los cuales han sido presentados en cuatro estudios diferentes. El objetivo del primer estudio fue describir los rasgos clínicso de personalidad en pacientes con inicio temprano de pssicosis y compararlos con una muestra control teniendo en cuenta el género. Como segundo objetivo, estudiamos la relación entre los rasgos clínicos de personalidad y los síntomas psicóticos en psicosis de inicio recinte. Nuestro tercer objetivo, fue analizar la relación entre la calidad de vida, los síntomas psicóticos y los rasgos clínicos de personalidad en esta misma muestra y finalmente, en nuestro cuarto objetivo, estudiamos los rasgos clínicos de personalidad y sus implicacions clínicas en pacientes con alto riesgo de psicosis.

Método

El método seguido en cada estudio se describe a continuación. En el primer estudio, con el fin de describir los rasgos de personalidad clínica, se realizó un estudio

descriptivo transversal en 94 pacientes reclutados consecutivamente en dos programas de rehabilitación de picosis de inicio reciente para adultos y una muestra control sin diferencias en género ni edad. Las medidas usadas fueron un cuestionario sociodemográfico y clínico, el Inventario Multiaxial Clínico de Millon III (MCMI-III) y para el análisis de los datos se aplicaron para hacer comparaciones la prueba T-student para muestras independientes, la prueba U de Mann-Whitney y las pruebas de Fisher. El segundo estudio se realizó solo con la muestra de pacientes. Las medidas incluyen el cuestionario sociodemográfico y clínico, el MCMI-III, la Escala del Síndrome Positivo y Negativo y la Escala de Evaluación General del Funcionamiento que se utilizaron para evaluar la personalidad, los síntomas y el funcionamiento. Los análisis de datos realizados fueron análisis correlacional, U de Mann-Whitney y, finalmente, una regresión logística. El estudio 3 se realizó con 81 pacientes reclutados consecutivamente en uno de los programas rehabilitación de psicosis de inicio reciente para adultos (Málaga). Las medidas incluidas fueron el MCMI-III, la Escala del Síndrome Positivo y Negativo y la Escala Breve de Calidad de Vida de la Organización Mundial de la Salud que se utilizaron para evaluar la personalidad, los síntomas y la calidad de vida, respectivamente. Los análisis de datos que se llevaron a cabo fueron las correlaciones de Pearson y T –Student o U de Mann-Whitney y regresiones lineales múltiples con el método por pasos. Finalmente, el cuarto estudio fue un estudio descriptivo longitudinal. Este estudio se llevó a cabo en cuarenta personas de alto riesgo y una muestra de 40 voluntarios sanos. Las medidas consideradas fueron el MCMI-III, la Escala de Síntomas Positivos y Negativos, los Inventarios de Depresión y Ansiedad de Beck, la Evaluación Global de la Escala de Funcionamiento y la Entrevista Neuropsiquiátrica Mini-Internacional 6.0.0. Se usaron la prueba exacta de Fisher, la prueba U de Mann-Whitney y la regresión logística para los análisis de datos

Resultados

En relación con la descripción de los rasgos de personalidad clínica propuestos en el estudio uno, todos los rasgos de personalidad fueron significativamente más altos en los pacientes con psicosis de inicio reciente que en los participantes control, excepto los rasgos histriónicos, narcisistas y compulsivos que fueron más altos en los controles. Los rasgos de personalidad clínicamente significativos esquizoide, evitativo, dependiente y antisocial fueron más comunes en los pacientes con psicosis de inicio reciente que en los participantes control. Sin embargo, el rasgo de personalidad clínicamente significativo histriónico fue más común en la muestra de control. En relación con las muestras masculinas y femeninas, se encontraron más diferencias significativas en la muestra de pacientes masculina con los controles hombres que en la muestra femenina. Las relaciones entre los síntomas y los rasgos de personalidad clínica propuestos en el estudio dos fueron las siguientes: los síntomas negativos fueron más altos en pacientes con rasgos esquizoides. Los síntomas de excitación fueron más bajos para aquellos con características de evitación y depresión. Los síntomas de ansiedad y depresión fueron más altos para los pacientes con rasgos dependientes. Los síntomas positivos fueron más bajos para los pacientes con rasgos histriónicos y más altos para los pacientes con rasgos compulsivos. La regresión logística demostró que el género y los síntomas positivos y negativos explicaban parte de la varianza del rasgo esquizoide. Los síntomas excitativos explicaron parte de la varianza del rasgo evitativo. Los síntomas de ansiedad y depresión y la edad explicaron parte de la varianza del rasgo dependiente. El género explicó pate de la varianza de los rasgos histriónicos, narcisistas y paranoides. Finalmente, el género y los síntomas positivos explicaron parte de la varianza del rasgo compulsivo. En el estudio 3 se estudió la calidad de vida en relación con los síntomas. Se encontraron correlaciones de rasgos de personalidad clínica entre

los síntomas negativos y los dominios físicos, psicológicos y sociales de la calidad de vida, y los síntomas desorganizados y el dominio físico de calidad de vida. Además, los dominios de calidad de vida física, psicológica y social eran más bajos en pacientes con rasgos esquizoides y el dominio psicológico era más bajo en pacientes con rasgos depresivos. Por el contrario, los dominios psicológicos y sociales fueron más altos en pacientes con rasgos histriónicos, mientras que el dominio físico fue mayor para pacientes con rasgos narcisistas. Las regresiones lineales múltiples demostraron que los síntomas negativos y los rasgos narcisistas y depresivos explicaban parte de la varianza del dominio físico. Los rasgos narcisistas y depresivos explican parte de la varianza del dominio psicológico. Finalmente, los síntomas negativos y los rasgos histriónicos explicaron parte del dominio social. En nuestro último estudio, donde se estudiaron algunas de las mismas variables en una muestra de alto riesgo, la mayoría de las personas de alto riesgo tenían al menos un rasgo clínicamente significativo; principalmente depresivo, límite o esquizotípico. Solo los rasgos histriónicos y narcisistas fueron más frecuentes en controles sanos. Los síntomas negativos se relacionaron con rasgos esquizoides y paranoides. La depresión era más severa en pacientes con rasgos limítes. La mayoría de las personas de alto riesgo tenían más de un diagnóstico del Eje I del Manual Estadístico y diagnóstico IV, principalmente trastornos depresivos / de ansiedad. La tasa de transición fue muy baja.

Discusión

Los primeros resultados de nuestro estudio destacan la importancia del estudio de los rasgos de personalidad clínica en pacientes con psicosis de inicio reciente y la importancia de ver estas diferencias en relación con el género debido a las posibles implicaciones terapéuticas. En relación con esto, los resultados de nuestro segundo estudio resaltan la importancia de examinar la personalidad en pacientes con psicosis,

ya que amplía la comprensión de los propios pacientes y los síntomas que sufren. El tercer estudio mostró que la calidad de vida parece estar mejor explicada por los síntomas psicóticos negativos y algunos rasgos clínicos de la personalidad y, por lo tanto, respaldan la importancia de los enfoques de intervención integrados que consideran la personalidad. Finalmente, nuestro estudio final sugirió que ciertos perfiles de personalidad pueden no ser marcadores de transición a la psicosis, pero contribuyen a una alta morbilidad en los individuos con alto riesgo de psicosis.

Conclusión

Esta tesis apoya la importancia de explorar los rasgos de personalidad clínicamente significativos en pacientes con alto riesgo y psicosis de inicio reciente, ya que parecen tener una influencia en la morbilidad y el funcionamiento del paciente. Las intervenciones psicológicas centradas en los rasgos subyacentes de la personalidad pueden proporcionar otra vía para lograr la recuperación funcional y de los síntomas en personas que sufren de alto riesgo y aparición reciente de psicosis.

INTRODUCTION

1. Personality

1.1 Introduction

Personality is defined by different authors, and its definition varies considering different models. In general, personality may be defined as the internal causes underlying individual behavior and the experience of a person (Cloninger, 2003). In relation to what these causes are, different theories have been developed. These theories mainly answer three questions at different levels: how can personality be described? How can the dynamics of personality be understood? How does personality develop?

1.1.1 *How can personality be described?*

When describing people´s differences two main approaches can be taken:

- **Type** approach: This is a qualitative approach (category). Each personality has a limited number of categories. Each person is or is not a member of each category (e.g. diagnostic categories).
- **Trait** approach: This is a quantitative approach (dimension). Every person has every trait to a greater or lesser degree. (e.g. The Big Five model; Costa and McCrae, 1992).

Although both classifications are useful, there are arguments in relation to which approach is more appropriate. For example the international classifications of mental disorders-the Diagnostic and Statistic Manual (DSM) and the Internacional Classification of Diseases (ICD)-have adopted a categorical classification system. They provide simplified abstractions which are easy to communicate, but important information about the patient is subsequently lost. A dimensional approach to personality disorder (PD) classification, which locates patients along a set of

dimensions, has obvious advantages. A dimensional approach provides more information, but it is more difficult to communicate. Nowadays, there are clear traits approach defenders. In fact, categorical models are criticized by most researchers (Tyrer et al., 2007) and clinicians (Bernstein, Iscan, & Maser, 2007) whilst there are many dimensional model defenders. Tyrer (2005) considers that simple classificatory rule to score severity should be made for all instruments, and Verheul (2005) emphasized that a dimensional diagnostic system will substantially improve clinical utility, especially with respect to coverage, reliability, subtlety, and clinical decision made in DSM. In fact, by the middle of the last century, Schneider (1950) had proposed the view that personality traits are continuously distributed, the extreme deviations of a trait being pathological, if the individual or society suffered because of them. His 10 types of PDs illustrate the fundamental arbitrariness of categorical classification of abnormal personalities. Nowadays, abnormal personality traits are considered to exist in milder forms in normal individuals (Loranger, Janca, & Sartorius, 1997; Millon, 1990). If the traits manifest themselves as inflexible responses to a broad range of personal and social situations and result in considerable personal distress or social disruption, they are called PDs (American Psychiatric Association, 2000). They represent extreme or significant deviations from the way in which the average individual in a given culture perceives, thinks, feels, and relates to others. They are thus only quantitatively and not qualitatively different from normal personality. However, the border between normal and abnormal personalities is difficult to draw.

When describing people's differences there are two different views as to whether all traits exist in all people:

- **Idiographic** view emphasizes that each person has a unique psychological structure and that some traits are possessed by only one

person. This viewpoint also emphasizes that traits may differ in importance from person to person. It tends to use case studies, bibliographical information or diaries for information gathering.

- **Nomothetic** view emphasizes comparability among individuals but sees people as unique in their combination of traits. People differ in their positions along a continuum in the same set of traits. This approach tends to use self-report personality questionnaires and factor analysis among other tools.

In fact, Millon (1995) explained that when spotting and diagnosing personality disorders, first we have to start with the nomothetic perspective and look for various general scientific laws; then when we believe we have a disorder, we will switch our view to the idiographic perspective to focus on the specific individual and his or her unique traits.

Finally it is important to consider personality consistency vs situational behavior:

Most researchers assert that while it is important to study personality it is difficult to support the idea of behavior consistency along different situations. Personality works in the context of situations and a theorist needs to consider situations and personality traits (Cloninger, 2003). Even Eysenck (1944), an advocate of traits and factorial personality analysis, stated *"This scale is going strong and appears to describe some of the systematic ways in which people differ. Well it would do, if there wasn't one rather large fly in the personality psychologist's ointment: the situation."*

1.1.2 How can the dynamics of personality be understood?

The dynamics of personality refers to the mechanism by which personality is expressed-in other words, the processes that may or may not involve the direction to a target. This can be explained by:

- **Adaptation and adjustment**: Personality implies how a person confronts the world, and adapts to the demands and opportunities in the environment.

- **Cognitive processes:** Personality is influenced by our way of thinking about our abilities, as well as ourselves and other people.

- **Culture:** Social influences on personality are important to understand, since some of the motivations that direct people are shaped by their culture. Behavioural patterns considered normal in one culture are seen as deviant in another. PDs primarily reflect the views of Western European and North American psychiatry and they may not be equally applicable in other cultures (Loranger, Janca, & Sarotius, 2007).

1.1.3 How does personality develop?

This part refers to how personality forms and changes. There are two main considerations in this:

- **Biological influence:** This is where temperament belongs. It is described as consistent styles of behavior and emotional reactions that occur from childhood, presumably due to biological influences. There are many

researchers that consider that personality is significantly influenced by heredity (Baker & Daniels, 1990).

- **Experience in childhood and adulthood:** Personality develops over time. Experience influences the way every person forms their own personality. Many researchers consider the development of personality from childhood (Kenny & Campbell, 1989). In addition, although experience is an important factor and people do change, there is considerable evidence that personality is stable over a person's life (McCrae & Costa, 1984).

1.2 Research methods in personality

Personality can be assessed in different ways (Schultz & Schultz, 2002):

-**Self-report inventories**: This technique consists in asking people about themselves. Questions are related to their behaviour and feelings in situations. The method to create these tools are rational (based on the premise that there is a correspondence between a person´s answer and hypothetical internal states postulated from theory), empirical (oriented to an external criterion, without a specific interest in the connection between the person´s answer and the conduct that it predicts) and factorial criteria (through the factorial analysis allows the grouping of the items that are related to each other in more general units, the factors) or a combination of these three.

- **Projective techniques**: These methods are used to understand the unconscious part of personality. They are based on the assumption that

when an ambiguous stimulus is presented we project our fears, values and needs.

- **Clinical interviews**: Personality can also be assessed by unstructured and structured clinical interviews.

-**Behaviour assessment:** Personality can be assessed by an observer who considers the behaviour of a person in a specific situation.

All these techniques are useful depending on the frame of use. However, nowadays, in clinical research the tools most used are self-report inventories and clinical structured interviews because of their objective way of measuring that allows a nomothetic approach to the data for the study of personality.

Nonetheless, these techniques also have some advantages and disadvantages. While clinical interviews made by clinicians are the only way to obtain a diagnosis of PD, they have the ability to provide observations, cross-examination, and judgement of the experienced clinician; self-report inventories are broadly used for many reasons, as they are economical, usually may be passed to groups of people, are useful to measure traits and not only categories, are readily interpretable, give richness of information, the participants tend to be more motivated to report, they have a sheer practicality, are objective, use validity scales to ensure accurate detection, and as confidential, self-report measures usually produce more truthful responses (Paulhus & Vazire, 2010).

In the following section the most common self-report scales and clinical interviews to assess personality are described.

1.2.1. Self report inventories:

These are the most popular choice.

a) Empirical Criteria: Instruments construct within this criterion are based on the assessment of the correlation between the answers of a subject to a set of items and externally determined criteria; test elements should be useful to predict the relevant dimension.

- Minnesota Multiphasic Personality Inventory (MMPI; Hathaway and McKinley, 1942) adapted and validated in Spain (Ávila & Jiménez, 1999). It was designed to support psychiatric diagnosis of adolescents and adults. It can be used in general populations; however it was mainly designed for the assessment of pathologic traits. Answers are dichotomous and results are expressed in T scores. New versions, MMPI-A for adolescents (Butcher et al., 1992) and the MMPI-2 (Butcher, Graham, Tellegen, & Kaemmer, 1982) with its new version MMPI-2-RF (Tellegen et al., 2003) for adults have been designed. The MMPI-2-RF consists of 338 items and 51 scales that are grouped into 10 validity indicators, three higher order scales, nine clinical scales, five somatic/cognitive scales, nine internalizing scales, four externalizing scales, five interpersonal scales, two interest scales and five personality psychopathology scales as follows: aggressiveness, psychoticism, disconstraint, negative emotionality, neuroticism, introversion/low positive emotionality.

- California Psychological Inventory (CPI; Gough, 1987) adapted and validated in Spain (Seisdedos, 1992). It was designed to measure normal personality in the general population. It uses dichotomous answers and results are expressed in T scores. It can be used with ages 12 to 70. The CPI consists of 434 items grouped into 20 scales of dominance, capacity

for status, sociability, social presence, self-acceptance, independence, empathy, responsibility, socialization, self-control, good impression, communality, sense of well-being, tolerance, achievement via conformity, achievement via independence, intellectual efficiency, psychological-mindedness, flexibility, femininity-masculinity and three validity scales.

b) Factorial criteria: Instruments constructed within this criterion assess different factors -in other words, sets of items that correlate within them.

- Sixteen Personality Factor Questionnaire (16PF; Cattell et al., 1949). It has had many versions, the latest being 16PF-5 (Cattell, Cattell, & Cattell, 1993) that has been validated in Spain (Seisdedos, 2011). It consists of 164 items scored in a Likert scale. It assesses 15 primary personality trait constructs: warmth, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehension, openness to change, self-reliance, perfectionism, and tension, with one primary factor measuring intelligence, and five second-order factors that are akin to the Big Five, namely: extraversion, anxiety/neuroticism, tough-mindedness, independence, and control. Raymond Cattell has also designed children's versions, such as the Children's Personality Questionnaire (CPQ; Cattell and Porter, 1968) and an adolescent version, the Adolescents Personality Questionnaire (16PF-APQ; Schuerger, 2001) which is very similar to the adult version.
- The Clinical Analysis Questionnaire (CAQ; Krug, 1980) adapted to the Spanish population (Seisdedos, 1986). It consists of two parts; the first is

an abbreviated version of the 16PF and consists of 128 items, and the second was developed in order to supplement this instrument and measures the clinical pathology dimensions with 144 items.

- Gordon Personal Profile−Inventory (GPP-I; Gordon, 1993) adapted to the Spanish population (Instituto Calasanz de Ciencias de la Educación and Seisdedos, 2011). This scale also has its origin in Catell's questionnaires. Its utility is mainly for staff selection processes.
- Eysenck Personality Questionnaire (EPQ; Eysenck and Eysenck, 1975) consists of 90 dicothomic items and assesses neuroticism, extraversion and psychoticism from 16 years of age. There is a revised version of a 100 item EPQ-R (S. B. G. Eysenck, Eysenck, & Barrett, 1985) that adds a validity scale and which has been validated in Spanish (Aguilar, Tous, & Andrés-Pueyo, 1990). There is also a short version with 48 items EPQ-RS (Francis, Brown, & Philipchalk, 1992) as well as a children's version (8-15 years old) junior-EPQ (Eysenck, 1965).
- NEO-Inventory (NEO-I; McCrae & Costa, 1983). This inventory assesses the five major personality traits of the Five-Factor model (FFM). These traits are neuroticism: vulnerability to emotional instability and self- consciousness; extraversion: predisposition towards sociability, assertiveness and social interaction; openness: cognitive disposition to creativity and esthetics; agreeableness: tendency towards being sympathetic, trusting and altruistic; and conscientiousness: tendency towards dutifulness and competence. The revised version NEO-PI-R (Costa & McCrae, 1992) adapted and validated for the Spanish population (Sanz and García-Vera, 2009) consists of 240 items and five

factor: neuroticism, extraversion, openness, agreeableness and conciousness. This model also has a short version NEO-FFI (Costa & McCrae, 1992) that has 60 items and assesses the same scales.

c) Mixed criteria: These instruments have been constructed considering the combination of rational (based on theory), empirical and factorial criteria.

- Temperament and Character Inventory (TCI; Cloninger et al., 1993) adapted and validated in Spanish (Cloninger et al., 2004). It measures four temperament dimensions which are inheritable: novelty seeking, which reflects a tendency toward exploratory activity in response to novelty, impulsive decision making and active avoidance of monotony or frustration; harm avoidance, characterized by shyness, passive avoidant behavior, rapid fatigability and worry in anticipation of possible danger; reward dependence, the tendency to respond markedly to signals of reward manifest in social attachment and dependence; persistence, defined as perseverance despite frustration or fatigue; and three character dimensions: self-directedness, referring to self-determination, that is, the ability to control, regulate, and adapt behaviors to define, set, and pursue meaningful goals; cooperativeness, concerning the identification and acceptance of other people and revealing the tendency toward social tolerance, empathy, and compassion; and self-transcendence, associated with spirituality and with the concept of considering oneself an integral part of the universe which varies because of the environment and

which matures in adulthood. These dimensions are determined from a 240-item questionnaire.

- Millon Multiaxial Inventory (MCMI; Millon, 1983). This inventory was developed to operationalize the theory of psychopathology introduced by Millon in *Modern Psychopathology* (Millon, 1969) . There are several revised versions of the instrument. The latest revision, MCMI-IV (Millon, Grossman, & Millon, 2015), has not yet been validated in Spain. The MCMI-III (Millon, Davis, & Millon, 1997) validated in Spain (Cardenal, Sánchez, & Ortiz-Tallo, 2007) consists of 175 self-report True/False items measuring14 personality patterns, 10 clinical syndromes and four validity scales for use with adults 18 years of age and older who are being evaluated and/or treated in mental health settings. The MCMI-III was developed to bring the test in line with DSM-IV (American Psychiatric Association, 1994). It measures clinical personality traits as traits (0 to 115) or categories as clinically significant traits (≥75) or PD (≥85). This inventory was designed for people evaluated in mental health settings; however its use has been expanded and it is sometimes used in the general population, although it has not been officially validated. Previous studies have already employed this instrument with healthy volunteers (HVs) because of the enrichment of the comparison in clinical research (Cohen et al., 2005; López Pantoja et al., 2012; Manchikanti et al., 2002; Prosser et al., 2008).

Clinical personality trait scales are the following (Craig, 2005):

1. Schizoid. Individuals are socially detached; prefer solitary activities; seem aloof, apathetic, and distant, with difficulties in forming and maintaining relationships.

2A. Avoidant. Individuals are socially anxious due to perceived expectations of rejection.

2B. Depressive. Individuals are downcast and gloomy, even in the absence of a clinical depression.

3. Dependent. Individuals are passive, submissive, and feel inadequate. They generally lack autonomy and initiative.

4. Histrionic. Individuals are gregarious, with a strong need to be at the center of attention. They can be highly manipulative.

5. Narcissistic. Individuals are self-centered, exploitative, arrogant, and egotistical.

6A. Antisocial. Individuals are irresponsible, vengeful, engage in criminal behavior, and are strongly independent.

6B. Aggressive (Sadistic). Individuals are controlling and abusive; they enjoy humiliating others.

7. Compulsive. Individuals are orderly, organized, efficient, and perfectionistic. They engage in these behaviors to avoid chastisement from authority.

8A. Passive-Aggressive (Negativistic). Individuals are disgruntled, argumentative, petulant, oppositional, negativistic; they keep others on edge.

8B. Self-Defeating. Individuals seem to engage in behaviors that result in people taking advantage of and abusing them. They act like martyrs and are self- sacrificing.

Severe Personality Pathology Scales

S. Schizotypal. Individuals seem 'spacey', self- absorbed, idiosyncratic, eccentric, and cognitively confused.

C. Borderline. Individuals display a labile affect and erratic behavior. They are emotionally intense, often dissatisfied and depressed, and may become self-destructive.

P. Paranoid. Individuals are rigid and defensive. They hold delusions of influence and persecution. They are mistrusting and may become angry and belligerent.

In addition to this scale, the author has developed a scale for adolescents, the Millon Adolescent Clinical Inventory (MACI; Millon, 1993), a scale to measure personality styles in general population, the Millon Index of Personality Styles revised (MIPS; Millon, 2004) and its adolescent version Millon Adolescent Personality Inventory (MAPI; Millon et al., 1982).

1.2.2 Clinical structured or semi-structured Interviews for the assessment of personality

- The ICD-l0 International Personality Disorder Examination (IPDE; Loranger et al., 1997). This is a semi-structured interview that assesses PDs according to ICD-10 (World Health Organization, 1992) and DSM-IV (American Psychiatric Association, 1994) criteria. It has been

produced in two modules, one for ICD-10 and one for DSM-IV criteria for PDs. The two IPDE modules (DSM-IV and ICD-10) contain both a self-administered screening questionnaire and a semi-structured interview booklet with scoring based on the screening questionnaire.

- Structured Interview for DSM-III-R Personality Disorders (SIDP-R) and its revised version the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl et al., 1997). This interview does not cover *DSM* personality categories on a disorder-by-disorder basis; it is organized by topic sections to allow for a more natural conversational flow. They are grouped according to 10 topical sections that reflect different dimensions of personality functioning. It takes between one and a half and two hours to administer.

- The Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini et al., 1996). This semi-structured clinical interview assesses all DSM-IV PDs. The interview has 108 items, with each disorder rated on a scale of 0 (disorder is absent) to 2 (disorder is present). Also includes depressive PD and passive-aggressive PD of the *DSM-IV* appendix. It takes around 90 minutes to complete.
- Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders (SCID-II). The respondent typically first completes a questionnaire and interviewers then follow up on responses. It is also the shortest interview (140 items), lasting minimally 30 minutes. The SCID-II measures all DSM-IV PDs and the associated symptoms in the order they are presented in the DSM-IV. A new version for DSM-5 has been published:

the Structured Clinical Interview for DSM-5 Disorders—Clinician Version (SCID-5-CV; First, 2016).

1.3 Personality disorders:

The diagnosis of PDs involves a wide range of personality traits (patterns of perceiving, thinking, relating and interacting with people) that are inflexible, maladaptive and that cause significant stress and disability when they are untreated (American Psychiatry Association, 2000; Loranger et al., 1997). The different criteria used in the most popular diagnosis systems are decribed in Table 1. People with a diagnosis of PD are more likely to have physical and mental health problems, and go more often to the general practitioner, psychiatrist and psychologist than those who do not have this diagnosis (Jackson & Burgess, 2000).

Table 1. Summary of the general criteria to diagnose a PD considering the main diagnostic manuals criteria

General Criteria for Personality Disorders		
DSM-IV-TR	**DSM-5**	**ICD-10**
	The essential features of a personality disorder are impairments in personality (self and interpersonal) functioning and the presence of pathological personality traits. To diagnose a personality disorder, the following criteria must be met:	Evidence that the individual's characteristic and enduring patterns of inner experience and behavior deviate markedly as a whole from the culturally expected and accepted range (or 'norm'). Such deviation must be manifest in more than one of the following areas: (1) cognition (i.e. ways of perceiving and interpreting things, people and events; forming attitudes and images of self and others); (2) affectivity (range, intensity and appropriateness of emotional arousal and response); (3) control over impulses and need gratification; (4) relating to others and manner of handling interpersonal situations.
A. An enduring pattern of inner experience and behavior the deviates markedly from the expectations of the individual's culture. This pattern is manifested in two (or more) of the following areas: 1. Cognition (i.e., ways of perceiving and interpreting self, other people and events). 2. Affectivity (i.e., the range, intensity, liability, and appropriateness of emotional response). 3. Interpersonal functioning. 4. Impulse control.	A. Significant impairments in self (identity or self-direction) and interpersonal (empathy or intimacy) functioning.	G.2 The deviation must manifest itself pervasively as behavior that is inflexible, maladaptive, or otherwise dysfunctional across a broad range of personal and social situations (i.e. not being limited to one specific 'triggering' stimulus or situation).
B. The enduring pattern is inflexible and pervasive across a broad range of personal and social situations.	B. One or more pathological personality trait domains or trait facets.	G.3 There is personal distress, or adverse impact on the social environment, or both, clearly attributable to the behavior referred to under G2.
C. The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.	C. The impairments in personality functioning and the individual's personality trait expression are relatively stable across time and consistent across situations.	G.4 There must be evidence that the deviation is stable and of long duration, having its onset in late childhood or adolescence.
D. The pattern is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood.	D. The impairments in personality functioning and the individual's personality trait expression are not better understood as normative for the individual's developmental stage or sociocultural environment.	G.5 The deviation cannot be explained as a manifestation or consequence of other adult mental disorders, although episodic or chronic conditions from sections F0 to F7 of this classification may co-exist, or be superimposed on it.
E. The enduring pattern is not better accounted for as a manifestation or consequence of another mental disorder.	E. The impairments in personality functioning and the individual's personality trait expression are not solely due to the direct physiological effects of a substance (e.g., a drug of abuse, medication) or a general medical condition (e.g., severe head trauma).	G. 6 Organic brain disease, injury, or dysfunction must be excluded as possible cause of the deviation (if such organic causation is demonstrable, use category F07).
F. The enduring pattern is not due to the direct physiological effects of a substance (e.g., a drug abuse, a medication) or a general medical condition (e.g., head trauma).		

Note: DSM-IV-TR: Diagnostic and Statistic Manual –IV- text revision; DSM-5: Diagnostic and Statistic Manual –IV/ -5; ICD-10: International Classification of Diseases-10.

Reprinted with permission from: (a) The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic, (Copyright 1993). World Health Organization; (b) the Diagnostic and Statistical Manual of Mental Disorders, Fourth- TR Edition, (Copyright 2000). American Psychiatric Association; (c) the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright 2013). American Psychiatric Association.

1.3.1 Conceptual distinction between normal and disordered personality

There are four main conceptions (Livesley & Jang, 2005; Strack & Lorr, 1994):

a) Normal and disordered personalities are distinct categories.

b) Normal and disordered personalities merge.

c) There are only quantitative differences; however certain combinations of traits can lead to qualitative differences in the features defining disordered personalities.

d) Traits that constitute normal personality can lead to distinct disorders due to the influence of specific aetiological processes.

Although DSM and ICD diagnoses are said to be categorical in nature the distribution of the diagnosis criteria appears continuous. In fact, there are numerous studies such as first degree relatives of patient studies (Tienari et al., 2003) that support the notion that there are no qualitative differences in traits between patients with a PD diagnosis and healthy individuals (Livesley, 1986; Livesley, 1998), lending support to the continuum of PDs.

As a novelty, considering all the controversy in relation to categorical diagnosis, DSM-5 includes an alternative model for diagnosing PDs where the construct 'identity' has been integrated as a central diagnostic criterion for PDs. This model has been placed in section III of the manual. It includes the use of diagnoses and a scale "Level of Personality Functioning-Scale" which is a dimensional tool that describes the severity of the disorders. Pathological personality traits are assessed in five broad domains which are divided into 25 trait facets (Schmeck, Schlüter-Müller, Foelsch, & Doering, 2013). (See Table 2).

Table 2. Level of Personality Functioning Scale.

	Self		Interpersonal	
Level	**Identity**	**Self-direction**	**Empathy**	**Intimacy**
0 Little or no impairment	Has ongoing awareness of a unique self; maintains role-appropriate boundaries.	Sets and aspires to reasonable goals base on a realistics assessment of personal capacities.	Is capable of accurately understanding others´experiences and motivations in most situations.	Maintains multiple satisfying and enduring relationships in personal and community life.
1 Some impairment	Has relatively intact sense of self, with some decrease in clarity of boundaries when strong emotions and mental distress are experienced.	Its excessively goal-directed, somewhat goal-inhibited, or conflicted about goals.	Is somewhat compromised in ability to appreciate and understand others´experiences; may tend to see others as having unreasonable expectations or a wish for control.	Is able to establish enduring relationships in personal and community life, with some limitations on degree of depth and satisfaction.
2 Moderate impairment	Depends excessively on others for identity definition, with compromised boundary delineation.	Goals are more often a means of gaining external approval than self-generated and thus may lack coherence and/or stability.	Is hyper-attuned to the experience of others, but only with respect to perceived relevance to self.	Is capable of forming and desires to form relationship in personal and community life, but connections may be largely superficial.
3 Severe impairment	Has a weak sense of autonomy/agency; experience of a lack of identity, or emptiness. Boundary definition is poor or rigid May show over identification with others; overemphasis on independence from others, or vacillation between these.	Has difficulty establishing and/or achieving personal goals.	Ability to consider and understand the thoughts, feelings and behaviour of other people is significantly limited; may discern very specific aspects of others´as experience, particularly vulnerabilities and suffering.	Has some desire to form relationships in community and personal life is present, but capacity for positive and enduring connections is significantly impaired.
4 Extreme impairment	Experience of a unique self and sense of agency/ autonomy are virtually absent, or are organized around perceived external persecution. Boundaries with others are confused or lacking.	Has poor differentiation of thoughts from actions, so goal-setting ability is severely compromised, with unrealistic or incoherent goals.	Has pronounced inability to consider and understand others´experience and motivation.	Desire for affiliation is limited because of profound disinterest of expectation of harm. Engagement with others is detached, disorganized or consistently negative.

Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright 2013). American Psychiatric Association.

1.3.2 Stability of personality disorders

Stability had always been a basic criterion for PDs. However this criterion is not considerd to be basic anymore. While DSM-IV defined stability as *"The pattern is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood"* DSM-5 is less rigid: *"The impairments in personality functioning and the individual´s personality trait expression are relatively stable across time and consistent across situations"* (see Table 1). There is evidence that some traits such as

borderline or antisocial tend to become less evident or to remit with age (American Psychiatric Association, 2000; Coolidge et al., 2000). In addition, a few longitudinal studies have demonstrated that stability over time in PDs cannot be described (Gunderson et al., 2006; Peled, Bar-Kalifa, & Rafaeli, 2017; Vater et al., 2014; Zanarini et al., 2007).

1.3.3 Epidemiology of personality disorders

Prevalence of PDs varies from 6.1 to 13.4 %, with the averaging of these two low/high percentages at 9.7% (Sansone & Sansone, 2011).

Most common PDs vary among different countries. There is one review that compares prevalence in different countries finding that in the United States, obsessive-compulsive PD is the most frequent Axis II disorder, followed by narcissistic and borderline PD. Australia's most prevalent was also obsessive-compulsive PD, in contrast to Norway's most common PD which was found to be avoidant, followed by paranoid PD. Iceland´s most common was schizotypal followed by obsessive compulsive PD (Sansone & Sansone, 2011). Therefore, the most common PD in a given culture often differs from other cultures. This may be explained by different reasons: (a) methodology in the recognition and detection of PDs, (b) culture (e.g. western societies reinforce narcissism and discourage dependency in contrast to eastern societies) and (c) current events (e.g. war-torn countries favor antisocial personality) (Sansone & Sansone, 2010).

DSM-IV-TR (American Psychiatric Association, 2000) suggests that six PDs (antisocial, narcissistic, obsessive-compulsive, paranoid, schizotypal, schizoid) are more frequently found in men and three others (borderline, histrionic, dependent) are

presumably more frequent in women. However, there is controversy about this considering that there are biases in the diagnosis of PDs such as the assessment instruments that may contain gender bias, and in the clinicians that may behave in a biased way when they apply PD criteria to men and women (Jane, Oltmanns, South, & Turkheimer, 2007).

There is one study that estimated prevalence of PD clusters with the IPDE in 13 different countries finding that PDs are significantly more elevated among males. This study also found that those previously married and those that are unemployed more frequently had cluster C PDs, and cluster A and B are more frequent among young people and the poorly educated. In addition, this study reported that PDs are highly comorbid with Axis I disorders and that impairments associated with PDs are only partially explained by comorbidity (Huang et al., 2009).

1.3.4 Comorbidity of personality and other psychiatric disorders

The importance of diagnosing PDs when they co-occurs with axis I disorders is well known, since the duration, recurrence and outcome of axis I disorders may be influenced by this diagnosis (Newton-Howes, Tyrer, & Johnson, 2006; Zimmerman, Chelminski, & Young, 2008). In addition, it has been proved that those patients that have a comorbid PD have more severe symptoms and social functioning problems in comparison with those patients that only have an axis I disorder (Fok, Stewart, Hayes, & Moran, 2014).

There is a review on the topic that reports that this comorbidity varies from 10.8-73.7% in different studies (Zimmerman et al., 2008). The variety of results depends on different causes including the timing of the assessment, the presence of Axis I disorders,

the source of information, the instrument used (Zimmerman, 1994) and questions of generability since clinical epidemiological studies are generally single site studies of samples of convenience.

Finding the right moment for the diagnosis of a PD is complex. An acute state can increase personality traits, however, not to assess PDs in an acute state could make the patients disorder become chronic as an appropriate treatment would not be applied (Reich & Green, 1991). Therefore it is very important to balance between the two situations. In fact, it has been shown that the diagnosis of a PD in severe mental disorders is of great importance, since they benefit from interventions that involve both diagnoses (Fok et al., 2014).

2. Psychosis

"Psychosis is the defining feature of schizophrenia spectrum disorders, a common but variable feature of mood and substance use disorders, and a relatively common feature of many developmental, acquired, and degenerative neurologic and medical conditions. Across these conditions, psychosis is both a contributor to disability and a barrier to productivity and participation" (Arciniegas, 2015).

In relation to clinical presentation and diagnosis there is currently no validated biological marker of schizophrenia. The diagnosis is made by identifying the symptoms and signs of the disorder, which include delusional beliefs, hallucinations, disorganised thinking and speech, cognitive impairment, abnormal motor behaviour and negative symptoms. While neuroimaging and cognitive testing may help to rule out alternatives, such as schizophrenia-like manifestations of other disorders affecting brain function, schizophrenia is a clinical diagnosis. The syndrome of schizophrenia, as defined in the DSM and ICD classification systems, can be diagnosed with a high degree of inter-rater reliability (Galletly et al., 2016).

2.1 Stress Vulnerability Model

The stress vulnerability model explains the mechanisms that are implicated in the aetiology and evolution of psychotic disorders (Wied & Jansen, 2002; Nuechterlein & Dawson, 1982; Zubin & Spring, 1977).

This model explains the development of psychosis as a result of the interplay between inborn and acquired vulnerability -in other words, genetic and environmental risk factors vulnerabilities. In relation to inborn vulnerability, there is evidence that

psychosis and related disorders are more frequent in biological families than in the general population (Glatt, Stone, Faraone, Seidman, & Tsuang, 2006) as also supported with adoption studies (Kendler, Gruenberg, & Kinney, 1994). While the lifetime risk in the general population is just below 1%, it is 6.5% in first-degree relatives of patients (Kendler et al., 1993) and it rises to 12% in dizygotic twins and between 40-50% in monozygotic twins (Cardno & Gottesman, 2000; Gejman, Sanders, & Duan, 2010; Sullivan, Kendler, & Neale, 2003). In contrast, in relation to acquired vulnerability there is evidence that individuals exposed to childhood adversity are more likely to report psychotic experiences and that this association is not due to genetic confounding (Alemany et al., 2013). This vulnerability refers also to family education patterns, personality traits (Willinger, Heiden, Meszaros, Formann, & Aschauer, 2002) and poor adjustment in childhood (Shapiro et al., 2009) among other factors. Nonetheless, it is sometimes difficult to differentiate whether these results are because of genetic predisposition or because of environmentally acquired vulnerability.

Considering the vulnerability stress model a stressful life situation (a challenging event), such as psychosocial, traumatic events or the use or abuse of substances, could act as a trigger for the psychotic episode. Even with a high state of vulnerability, if there is no triggering event, the psychotic episode will not be expressed. In addition, stressful life situation may not be regarded as the 'cause' of the psychosis but as a more or less important boosting factor. There is a complicated interaction between biological and psychological vulnerability factors (Cullberg, 2003). (See Figure 1).

This model suggests that prevention and relapse could be prevented biologically (e. g. with medication) and with stress reduction and coping strategies (e. g. working on the psychosocial characteristics described).

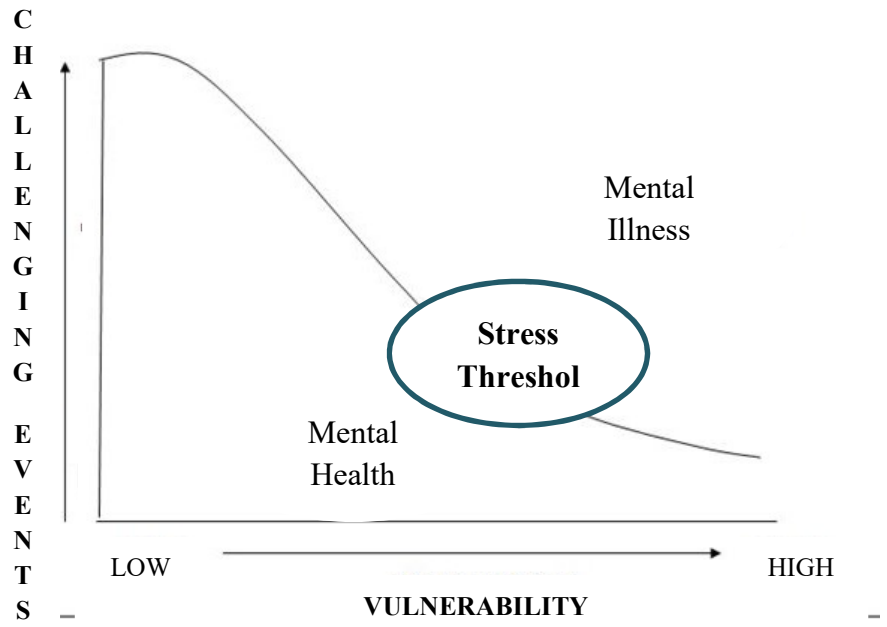

Figure 1. Relation between vulnerability and challenging events (Zubin and Spring, 1977). (Permission to reproduce).

2.2 Clinical Staging model

This model is response to the lack of therapeutic validity of the current diagnostic criteria considerable associated to distress and functional decline in the early stages of mental disorders when symptoms are still emerging and the intensity is not high enough to fulfill syndrome criteria. In this line, it proposes a pluripotential risk syndrome, compared with a specific prodrome (McGorry, Nelson, Goldstone, & Yung, 2010). This model is a flexible system linking the course, extension, and pattern of illness over time (see Figure 2). Clinical staging differs from conventional diagnostic practice in that it defines not only the extent of progression of a disorder at a particular point in time but also where a person currently lies along the continuum of the course of an illness (McGorry, Nelson, Goldstone, & Yung, 2010).

It is divided into sequential stages (Keshavan & Amirsadri, 2007):

a) Premorbid (or stage 0): years prior to the onset of psychotic symptoms, often with trait-like deficits in psychopathology, behaviour and function.

b) Prodromal (or stage 1): immediately preceding the onset of psychotic symptoms with sub-threshold positive symptoms and functional decline.

c) Psychotic phases (or stage 2): emergence of psychotic symptoms in late adolescence or early adulthood.

In this model genetic and environmental risk factors are also considered along the continuum of stages and therefore phases should be described as accurately as possible in relation to the factors that could work throughout the stages or may be phase-specific.

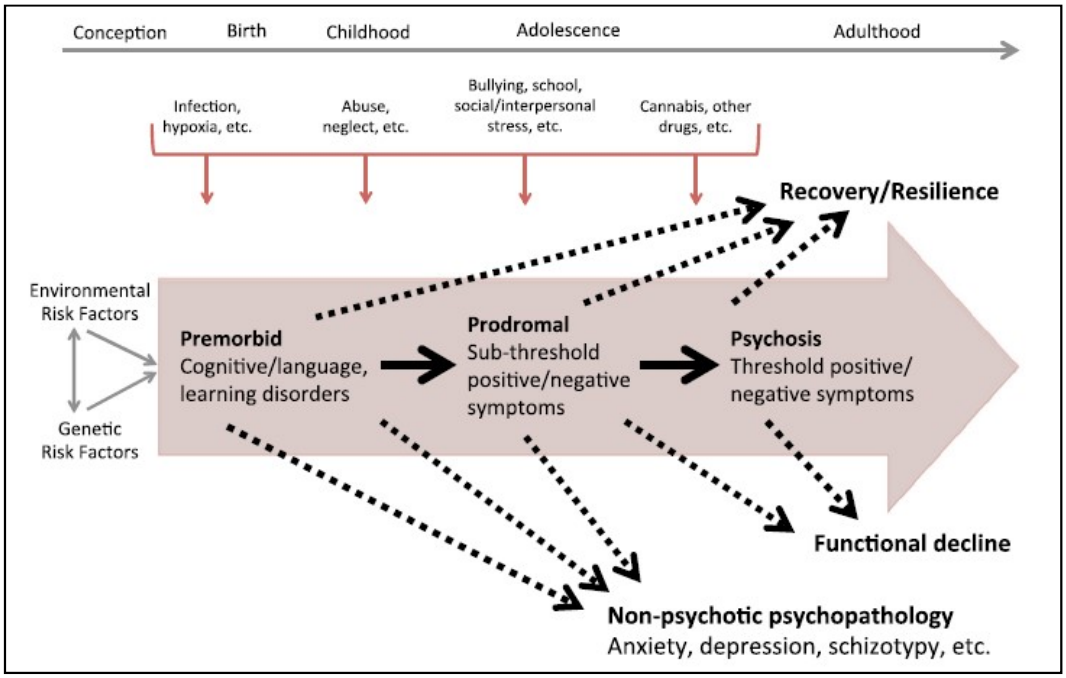

Figure 2. Risk factors, illness trajectories and outcomes for psychosis (Shah et al., 2013). (Permission to reproduce).

2.3 Categorical vs dimensional approach in psychosis

From a diagnostic point of view, psychotic diagnoses are better explained in a schizoaffective spectrum than in a nosology category (Craddock & Owen, 2005). In the same line, psychotic symptoms are better explained in a dimensional model; they are, in fact, presented along a continuum of intensity, frequency, and duration within schizophrenia, in other psychotic disorders (Cuesta, Ugarte, Goicoa, Eraso, & Peralta, 2007), and in non-psychotic patients and even healthy populations (Johns & van Os, 2001). In fact, variables related with the disease, such as the course of the disease, risk factor, endophenotypes, and putative neurobiological underpinnings are also better explained through the dimensional model. Nowadays, research supports this approach as having a better predictive value for important characteristics of the disease (Rosenman, Korten, Medway, & Evans, 2003). Nowadays, the study of psychosis should include hybrid models. Categorical and dimensional representations of psychosis can work complementarily (Demjaha et al., 2009)—an approach that has been followed by DSM-5.

2.4 The new approach to the diagnosis of schizophrenia spectrum disorders in DSM-5:

In DSM-5 schizophrenia spectrum disorders are defined by abnormalities in one or more of the following five domains: delusions, hallucinations, disorganized thinking (speech), grossly disorganized or abnormal motor behavior (including catatonia), and negative symptoms.

DSM-5 has evolved from DSM-IV-TR in its consideration of a spectrum. The diagnosis group was renamed from “Schizophrenia and other psychotic disorders” to “Schizophrenia spectrum and other psychotic disorders”. This conceptual psychosis

continuum is also represented in section III ("*conditions for further study*") with the *Clinician-Rated Dimensions of Psychosis Symptom Severity scale* (American Psychiatric Association, 2013). (See Table 3). This is an eight item measure that addresses symptom severity over the last seven days and is completed by the clinician using a Likert scale. It can be done regularly to measure progress.

Table 3. Clinician-Rated Dimensions of Psychosis Symptom Severity scale.

Domains	0	1	2	3	4
1. Hallucinations	Not presented	Equivocal (severity or duration not sufficient to be considered psychosis).	Present but mild (little pressure to act upon voices, not very bothered by voices)	Present and moderate (some pressure to respond to voices or is somewhat bothered by voices).	Present and severe (severe pressure to respond to voices or is very bothered by voices).
2. Delusions	Not presented	Equivocal (severity or duration not sufficient to be considered psychosis).	Present but mild (little pressure to act upon delusional beliefs, not very bothered by beliefs).	Present and moderate (some pressure to act upon beliefs or somewhat bothered by beliefs).	Present and severe (severe pressure to act upon belief or is very bothered by beliefs).
3. Disorganized speech	Not presented	Equivocal (severity or duration not sufficient to be considered disorganization).	Present but mild some difficulty following speech.	Present and moderate (speech often difficult to follow).	Present and severe (speech almost impossible to follow).
4. Abnormal psychomotor behavior	Not presented	Equivocal (severity or duration not sufficient to be considered abnormal psychomotor behavior).	Present but mild (occasional abnormal or bizarre motor behavior or catatonia).	Present and moderate (frequent abnormal or bizarre motor behavior or catatonia).	Present and severe (abnormal or bizarre behavior or catatonia almost constant).
5. Negative symptoms (restricted emotional expression or avolition)	Not presented	Equivocal (decrease in facial expressivity, prosody, gestures or self-initiated behavior).	Present but mild (decrease in facial expressivity prosody, gestures or self-initiated behavior).	Present and moderate (decrease in facial expressivity, prosody, gestures or self-initiated behavior).	Present and severe decrease in facial expressivity, prosody, gestures or self-initiated behavior.
6. Impaired cognition	Not presented	Equivocal (cognitive functioning not clearly outside the range expected for age or SES; i. e., within SD 0.5 of mean).	Present but mild (some reduction in cognitive function; below expected for age and SES, 0.5-1 SD from mean).	Present and moderate (clear reduction in cognitive function; below expected for age and SES, 1-2 SD from mean).	Present and severe (severe reduction in cognitive function; below expected for age and SES, > 2 SD from mean).
7. Depression	Not presented	Equivocal (occasionally feels sad, down, depressed or hopeless; concerned about having failed someone or at something but not preoccupied).	Present but mild (frequent periods of feeling very sad, down, moderately depressed or hopeless; concerned about having failed someone or at something with some preoccupation).	Present and moderate (frequent periods of deep depression or hopeless; preoccupation with guilt and having done something wrong).	Present and severe (deeply depressed or hopeless daily; delusional guilt or unreasonable self-reproach grossly out of proportion to circumstances).
8. Mania	Not presented	Equivocal (occasional elevated, expansive or irritable mood or some restlessness).	Present but mild (frequent periods of somewhat elevated, expansive or irritable mood or some restlessness).	Present and moderate (frequent periods of extensively elevated, expansive or irritable mood or some restlessness).	Present and severe (daily and extensively elevated, expansive or irritable mood or restlessness).

Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright 2013). American Psychiatric Association.

In addition, DSM-5 also includes the following changes: the elimination of subtypes of schizophrenia, the clarification of cross-sectional and longitudinal course specifiers, the elimination of special status of Schneiderian first-rank symptoms, the clarification and better delineation of schizophrenia in terms of the relationship between schizophrenia and schizoaffective disorders, the relationship between schizophrenia and

catatonia (Tan & van Os, 2014) and the inclusion of schizotypal PD in this group in synchrony with ICD-10.

The schizophrenia spectrum and other psychotic disorders include the following disorders: schizophrenia, schizotypal (personality) disorder, delusional disorder, brief psychotic disorder, schizophreniform disorder, schizoaffective disorder, substance/medication-induced psychotic disorder, psychotic disorder due to another medical condition, catatonia, catatonia associated with another mental disorder (catatonia specifier), catatonic disorder due to another medical condition, unspecified catatonia, other specified schizophrenia spectrum and other psychotic disorder, unspecified schizophrenia spectrum and other psychotic disorder.

2.5 Diagnosis of schizophrenia spectrum disorders

Diagnosis of psychotic disorder can be made either with an unstructured clinical interview or with a semi-structured or structured diagnosis interview. Clinicians are prepared to give accurate clinical diagnoses following DSM or ICD criteria that are designed to provide diagnostic uniformity. In fact, clinical diagnosis allows the clinician to give a diagnosis considering more variables such as prior knowledge of the patient, other respondent information, non-verbal language and evolution of the patient; in other words, a diagnosis based on clinical grounds allows the clinician to consider more variables. In fact, studies have shown high reliability of clinical-based diagnoses of psychosis in comparison to instrument-based diagnoses (Newton-Howes & Marsh, 2013; Weaver et al., 2003).

In contrast, some studies use structured interviews. The most common interviews are:

- Structured Clinical Interview for DSM- IV-TR (SCID-I; First et al., 2002) and its new version Structured Clinical Interview for DSM-5 Disorders—Clinician Version (SCID-5-CV;First, 2016); it is a semi-structured interview that covers all DSM-5 diagnoses.

- Composite International Diagnostic Interview (CIDI; Robins et al., 1988) is a comprehensive, fully-structured, short interview for the assessment of mental disorders according to the definitions and criteria of ICD-10 and DSM-IV.

- Schedules for Clinical Assessment in Neuropsychiatry; SCAN (Aboraya, Tien, Stevenson, & Crosby, 1988); this instrument allows the diagnosis of mental disorders based on ICD and DSM.

- International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) is a short, structured diagnostic interview for DSM-IV and ICD-10 psychiatric disorders.

2.6 Symptomatology in psychosis

In DSM-IV symptoms were divided in Schneider's first-rank symptoms of schizophrenia that include auditory hallucinations, thought withdrawal, insertion and interruption, thought broadcasting, somatic hallucinations, delusional perception and feeling or actions experienced as made or influenced by external agents. However this division does not exist in DSM-5 since all symptoms are considered of equal importance. Several scales could be used for the assessment of symptoms, as described as follow:

- Brief Psychiatric Rating Scale (BPRS; Overall and Gorham, 1962; Ventura et al., 1993) was developed to provide a rapid assessment technique. It has not been validated in Spain. It consists of a series of 16-24 items (depending ot the version) assessed on a Likert scale from 1-7 in four dimensions: negative, positive, manic-hostility and anxiety–depression symptoms (Ventura, Nuechterlein, Subotnik, Gutkind, & Gilbert, 2000).
- The Scale for the Assessment of Positive Symptoms (SAPS; Andreasen, 1984) and the Scale for the Assessment of Negative Symptoms (SANS; Andreasen, 1983). SAPS consists of 34 items grouped into four domains: hallucinations, delusions, bizarre behavior and positive formal thought disorder. SANS consists of 25 items grouped into five categories: affective flattering or blunting, alogia, avolition/apathy, anhedonia/asociality, and attention. All of them are assessed on a Likert scale from 1-5.
- Positive and Negative Syndrome Scale (PANNS; Kay and Opler, 1986) and its Spanish validation (Peralta Martín & Cuesta Zorita, 1994) was later developed to provide a more comprehensive assessment of the symptoms of schizophrenia. The scale comprises 30 items, divided into three domains. The positive subscale includes delusions, conceptual disorganization, hallucinations, excitement, grandiosity, suspiciousness/persecution, and hostility. The negative subscale assesses blunted affect, emotional withdrawal, poor rapport, social withdrawal, difficulty in abstract thinking, lack of spontaneity and flow of conversation, and stereotyped thinking. Finally, the general psychopathology subscale assesses somatic concern, anxiety, guilt feelings, tension, mannerisms and posturing, depression, motor retardation, uncooperativeness, unusual thought content, disorientation, poor

attention, lack of judgment and insight, disturbance of volition, poor impulse control, preoccupation, and active social avoidance. The scale includes all of the items from the BPRS and selected items, mainly the negative items, from the Psychopathology Rating Scale (Minas et al., 1992). Different factorial analyses have been made with this scale with different subsamples considering variability in age, sex, duration of illness, admission status and diagnosis, among others (Jerrell & Hrisko, 2013; van der Gaag et al., 2006). One study used a recent onset of psychosis (ROP) sample composed of 535 subjects with a diagnosis of schizophrenia spectrum disorder in order to study its factor structure. This study obtained an FFM that consists of the following subscales: negative, positive, disorganized (or cognitive), excited and anxiety/depression (Emsley, Rabinowitz, & Torreman, 2003).

2.7 Epidemiology

The risk of lifetime schizophrenia morbidity is 1%, and the figure is 2-3 % for psychotic spectrum disorders. Annual incidence of a first episode of schizophrenia and a first episode of psychosis (FEP) is 7 and 20.1/100,000 respectively (Baldwin et al., 2005)

Between 20 and 40% of patients report first psychotic symptoms before the age of 20 with the maximum incidence between 20-25 years in men and 25-30 in women. The overall incidence is similar in men and women although by type of psychotic disorder, schizophrenia is slightly higher in males and non-schizophrenic disorders in females. This is congruent with the fact that men have more negative symptoms and women have more affective symptoms (Leung & Chue, 2000). Some

migrant groups have substantially higher risks of schizophrenia (Bourque, van der Ven, & Malla, 2011), and people born and raised in urban areas have an increased risk of schizophrenia, compared with those born and raised in rural settings (Vassos, Pedersen, Murray, Collier, & Lewis, 2012).

2.8 Comorbidity and mortality

There are many studies that have shown the high comorbidity of psychosis with other disorders. Comorbidity with mood disorders has been widely described (Lyons et al., 2000; McMillan, Enns, Cox, & Sareen, 2009; Müller, 2007), as also has substance use disorder (Bland, Newman, & Orn, 1987; Boutros, Bonnet, & Mak, 1996; McMillan et al., 2009; Swadi & Bobier, 2003) and anxiety disorders (Bland et al., 1987; Braga, Mendlowicz, Marrocos, & Figueira, 2005; McMillan et al., 2009; Pallanti, Quercioli, & Hollander, 2004). Although there is less research on the study of the co-occurrence of PDs it has been increasing lately (Fogelson et al., 2007; McMillan et al., 2009; Moran & Hodgins, 2004; Wei et al., 2016).

There are some studies that specifically considered comorbidity and stability of comorbid axis I diagnosis in ROP patients. Many studies have reported that substance abuse is the most common comorbid disorder at the beginning (Pope, Joober, & Malla, 2013; Strakowski et al., 1993), followed by anxiety disorders (Pope et al., 2013) and mood disorders (Pope et al., 2013). However, Pope et al. (2013) have proven that stability varies over time, with the most stable psychiatric disorders being anxiety disorders as opposed to substance use and mood disorders.

Psychiatric comorbidities are common among patients with schizophrenia spectrum disorders; they influence prognosis and contribute to the high rate of

morbidity and mortality of the disease (Green, Canuso, Brenner, & Wojcik, 2003). For example depression can cause secondary negative symptoms and is also associated with suicide, the leading cause of premature death in patients with schizophrenia (Green et al., 2003). Panic attacks can drive paranoia, and cannabis abuse can worsen positive and disorganization symptoms (Buckley, Miller, Lehrer, & Castle, 2009). Sim et al. (2006) found in a sample of ROP that there was a lower reduction of psychotic symptoms, and less improvement in awareness of psychotic illnesses if there were comorbid psychiatric disorders. Francey et al. (2017) found that twenty-two percent of an ROP sample was diagnosed with co-occurring borderline personality increasing the risk of suicide and violent behaviour.

Standardised mortality ratios of 2.6 or higher have been reported, which correspond to a reduction in life expectancy of approximately 20% (Chwastiak & Tek, 2009). The leading causes of premature death among people with schizophrenia are cardiometabolic diseases, suicide and accidents (Laursen, 2011). Suicide accounts for 28% of the excess mortality in people with schizophrenia (Saha, Chant, & McGrath, 2007). Several risk factors have been suggested that are relatively specific to schizophrenia: the combination of young age and male sex, high level of education, the presence of insight, family history of suicide, substance use and the presence of depressive symptoms, hallucinations and delusions (Hor & Taylor, 2010).

2.9 Early stages of psychosis: high risk and recent onset of psychosis

Over the past decade there has been an increase in clinical and research interest in schizophrenia and other psychoses, with early stages of these disorders being viewed as especially important.

2.9.1 High Risk

During the past two decades the study of clinical high risk (HR) of psychosis, also known as 'all-risk mental state' (ARMS), 'prodromal,' 'UHR' has increased. The terms describe a potential pre-psychotic phase and its prodromal symptoms.

The term prodromal dates from 1932 (Mayer-Gross, 1932) and it was first included in Pubmed (Huber & Gross, 1989). As early as 1991, the first clinical interview to assess the presence of prodromal symptoms was developed (Jackson, McGorry, & McKenzie, 1994) and four years later the first clinical service for potentially prodromal individuals was opened (Yung et al., 1996). The importance of this stage has been recognized and DSM-5 has included in section III the category 'attenuated psychotic syndrome'.

2.9.1.1 High Risk Criteria

There are two sets of criteria to diagnose HR state: Ultra high Risk (UHR) and Basic Symptoms (BS) criteria (Olsen & Rosenbaum, 2006). (See Figure 3).

a) UHR criteria imply one or more of the following: attenuated psychotic symptoms, brief limited intermittent psychotic episode (BLIP), and trait vulnerability plus a marked decline in psychosocial functioning (genetic risk and deterioration syndrome (GRD) and unspecified prodromal symptoms (UPS)). To assess UHR criteria some interviews have been developed:

   - Structured Interview for Prodromal Symptoms (SIPS**;** Miller et al., 1999). This is a semi-structured interview developed by American researchers, which elicits information regarding the presence and

severity of 19 symptoms across four domains of psychopathology, including positive, negative, disorganization, and general symptoms. SIPS is composed of: Criteria of Prodromal Syndromes (COPS), Presence of Psychosis Scale, Scale of Prodromal Syndromes (SOPS), General Assessment of Functioning (GAF), a checklist for schizotypal PD and a questionnaire of family history of mental illness.

- Comprehensive Assessment of At-Risk Mental States (CAARMS; Yung et al., 2005). This is a diagnostic interview and rating system developed to assess psychosis risk criteria prospectively. It consists of detailed definitions, questions, and anchor points for eliciting and rating 28 symptom clusters across seven dimensions of psychopathology, including positive symptoms, cognitive change, emotional disturbance, negative symptoms, behavioural change, motor physical change, and general psychopathology. Only scores on the subscale of positive symptoms are included when evaluating the UHR criteria. For several symptoms, both subjective experience and objective observation are rated separately. Dimensions of intensity, frequency/duration and fluctuation of symptoms are scored on a Likert scale for each individual item. The starting date and ending date of each symptom are also noted. The level of distress is measured only for the positive symptoms. The CAARMS has two functions: a) to provide a comprehensive assessment of psychopathology thought to indicate imminent development of a FEP, and b) to determine if an individual meets UHR status based on

criteria derived from the CAARMS assessment. It is designed for repeated use over time.

b) BS criteria implies BS that are subjectively experienced disturbances of different domains, including perceptions, thought processing, language and attention, which are distinct from classic psychotic symptoms in that they are independent of abnormal thought content and reality testing and, insight into the symptoms psychopathologic nature is intact (Schultze-Lutter, 2009). Interviews are:

- Bonn Scale for the Assessment of Basic Symptoms (BSABS; Gross et al., 1987) which is an instrument developed by German researchers that represents a detailed outline of the so-called BS of schizophrenia. The scale consists of six subscales of BS: A + B, scales of dynamic deficits; C, cognitive disturbances; D, coenesthetic (body misperception) experiences; E, central vegetative disturbances; and F, autoprotective behavior.
- Schizophrenia Proneness Instrument, adult version (SPI-A; Schultze-Lutter et al., 2007) and child and youth version (SPI-CY; Schultze-Lutter and Koch, 2010). A special version for children and adolescents seemed necessary to allow for the assessment of developmental issues and a distinct clustering of symptoms in this age group.
- Interview for the Retrospective Assessment of the Onset of Schizophrenia (IRAOS; Häfner et al., 1992). This is a semi-structured, clinical interview. It consists of five sections: a) general information on the patient and other close informants; b) socio-

demographic data about education, vocational training, work, partner, living conditions and income as well as questions about the biographical development in these areas since birth; c) records of the course of the illness; all inpatient and outpatient treatments and forms of treatment during the episodes, and during the intervals between two episodes; d) retrospective data on the symptomatic course up to the time of the interview. It records non-specific signs, social disabilities, and psychotic, depressive and manic symptoms including some basic symptoms; e) the interviewer assesses the quality of the data collected.

As explained, UHR and BS criteria relate to complementary sets of clinical features, with the BS criteria perhaps identifying an earlier prodromal state and the UHR criteria reflecting a somewhat later phase. Considering this, there is an increasing tendency for centers to use both criteria when assessing HR individuals.

- Early Recognition Inventory for the retrospective assessment of the onset of schizophrenia (ERIraos; Maurer, Horrmann, & Trendler, 2006). This provides a tool which allows characterizing prodromal phase (both early and late prodromal phase) across phenomenological descriptions of each one of them. ERIraos is a sequential two-step procedure of risk assessment for psychosis onset. First, potential at-risk persons are identified using a checklist (ERIraos-CL). It includes 15 items grouped into (1) unspecific symptoms (2) specific at risk mental states (ARMS)-symptoms and (3) specific symptoms occurring in late ARMS and /or FEP. Subjects

are asked to report whether the evaluated symptoms occurred within the past 12 months without any regard to frequency, duration or intensity. Patients with at least one positive score in symptom group two or three are considered positive and are further characterized by ERIraos symptom list (ERIraos-SL). This is the core element of the ERIraos: (A) if this specific symptom was present in the previous four weeks, (B) if it already occurred within the previous 12 months, (C) if there was a deterioration during the previous 12 months and (D) if there is a current emotional strain regarding this symptom.

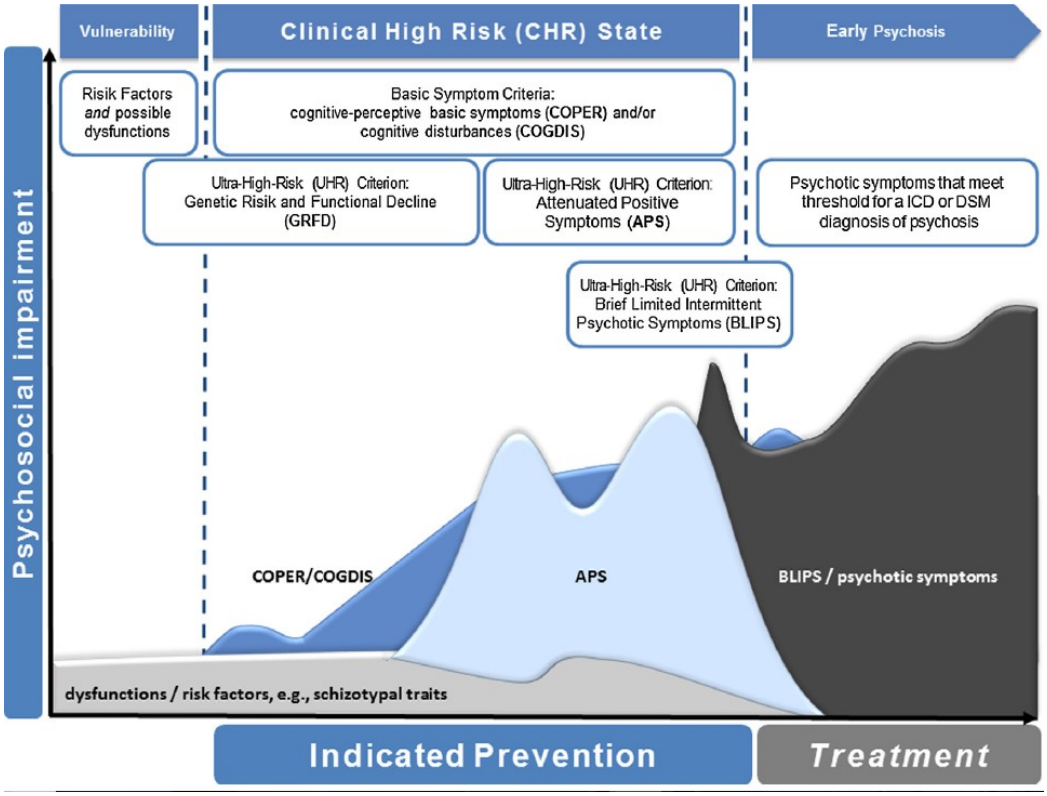

Figure 3. Model of psychosis onset from the clinical HR State.(Schultze-Lutter et al., 2015). (Permission to reproduce).

2.9.1.2 Epidemiology

Since there are several interviews to assess HR state and even the criteria for what is an HR state vary between models, studies of epidemiology are not conclusive and

results varies from 1 to 8% depending on these variables (Fusar-Poli et al., 2013) (e.g. in one study approximately 8% met criteria for HR when the SIPS was used while 6.9 % of the sample met criteria for the attenuated psychosis syndrome described by DSM-5, and only 1% met criteria for HR when the CAARMS was used (Kelleher et al., 2012)).

2.9.1.3 Transition criteria

There are different criteria to consider transition. On one hand, the most common criteria is based on the group that developed the CAARMS: "*occurrence of at least one fully positive psychotic symptom several times a week for more than 1 week*" (Yung et al., 2003) and on the other the BS criteria that requires: "*the presence of at least one fully positive psychotic symptom several times per week for at least 1 month or at least one fully psychotic symptom for at least 1 day if this symptom is seriously disorganizing or dangerous*"(Miller et al., 2003).

Even though people at HR are in an increased risk of developing psychosis, prodromal symptoms are thus considered heterotypic and are therefore related to several potential outcomes including nonpsychotic disorders. A recent meta-analysis published on transition rates reported that there was consistent transition risk to psychosis, independent of the psychometric instruments used, of 18% after 6 months of follow-up, 22% after 1 year, 29% after 2 years, and 36% after 3 years. Significant moderators accounting for heterogeneity across studies and influencing the transition risks were the age of participants, treatments received, and diagnostic criteria used (Fusar-Poli et al., 2012).

The risk of transition declines every year at a rate of 0.8 (Yung et al., 2007). The reduction of transition may be due to different causes: (1) treatment effectiveness (2)

lead-time bias, earlier detection resulting in transition seemingly occurring later; (3) an increase in false positives who were never at risk of psychosis.

2.1.9.4 Comorbid clinical and functional problems

Patients at HR present other clinical concerns. The most frequent comorbid clinical diagnoses are anxiety, depression, and substance use disorders, which are clinically debilitating (Yung et al., 2008). The HR state might also be associated with increased suicidality (Hutton, Bowe, Parker, & Ford, 2011). In addition their subjective quality of life is compromised by high levels of negative symptoms, significant impairments in academic performance and occupational functioning, and difficulties with interpersonal relationships (Bechdolf et al., 2005). The experience of HR symptoms per se is also associated with a marked impairment in psychosocial functioning which appears as a core feature of the HR state (Velthorst et al., 2010).

2.1.9.5 Attenuated risk of psychosis syndrome

DSM-5 included attenuated psychosis syndrome in Section III under "*conditions for further study*".The DSM -5 task force determined that there was insufficient evidence to warrant inclusion of attenuated psychosis syndrome as an official mental disorder diagnosis in Section II. "The proposed criteria are not intended for clinical use; only the criteria sets and disorders in Section II of DSM - 5 are officially recognized and can be used for clinical purposed." (American Psychiatric Association, 2013; Reddy, 2014).

The proposed diagnostic criteria for attenuated psychosis syndrome in DSM - 5:

a. At least one of the following symptoms is present in attenuated form, with relatively intact reality testing and of sufficient severity or frequency to warrant clinical attention:
    - Delusions
    - Hallucinations
    - Disorganized speech.
b. Symptom(s) must have been present at least once per week in the last month.
c. Symptom(s) must have begun or worsened in the past year.
d. Symptom(s) is sufficiently distressing and disabling to the individual to warrant clinical attention-

    Symptom(s) is not better explained by another mental disorder, including, depressive or bipolar disorder with psychotic features, and is not attributable to physiological effects of a substance or another medical condition

e. Criteria for any psychotic disorder have never been met.

2.9.2 First Episode of Psychosis

The term FEP was first used by Targum (1983) to describe patients with schizophreniform disorder in investigating the transition to schizophrenia. Early on, many authors used FEP to refer to schizophrenia only. However, by 2000 FEP became a separate concept referring to a broad range of individuals with the whole spectrum of psychotic diagnoses. Even today, there is no consensus in the literature in relation to the definition of FEP since it is not a diagnostic criterion and has not been subjected to rigorous tests of validity (Taylor & Perera, 2015). The heterogeneity of operational definitions makes it difficult to make meaningful and valid comparisons between

studies using FEP samples. Considering all the heterogeneity a broader term, ROP, is proposed instead (Breitborde, Srihari, & Woods, 2009).

Since the Early Psychosis Prevention and Intervention Centre (EPPIC) program was established in Melbourne (McGorry, Edwards, Mihalopoulos, Harrigan & Jackson, 1996), other programs have been developed in Europe (i.e. the Birmingham Early Intervention Service (EIS) (Birchwood, McGorry, & Jackson, 1997) and wordlwide. The goal of these programs is to change the trajectory of psychotic illness and maximize recovery in the shortest time frame (McGorry, Edwards & Pennell, 1999).

As explained by the critical period hypothesis, early phase of psychosis (including the period of untreated psychosis) is a critical period in which long-term outcome is predictable, and biological, psychological and psychosocial influences are developing and showing maximum plasticity (Birchwood, Todd, & Jackson, 1998).This period is about 2-5 years of duration of illness (Breitborde et al., 2009). The most pronounced decline occurs at illness onset; vulnerability to aggressive deterioration and clinical progression continues during this window, and consideration of the malleability of this period rehabilitation in this phase is of crucial importance (Birchwood & Fiorillo, 2000).

Several systematic reviews have found that long duration of untreated psychosis (DUP) is a significant risk factor for poorer outcomes, disability and poor quality of life (Marshall et al., 2005; Perkins, Gu, Boteva, & Lieberman, 2005). Therefore the aim of early intervention centres is to reduce time between the initiation of psychosis and the intervention.

To conclude, it seems of natural interest to study the process of ROP. From a clinical perspective, the provision of treatment early in the course of the illness raises the possibility that one may be able to prevent or reduce the morbidity that rapidly

occurs in the first years. In addition, given the broadness of this concept a positive diagnostic uncertainty is permitted, with the advantage of the reduction of the stigma that this implies. From a research perspective, the study of early stages provides an opportunity to identify the biopsychosocial variables that accompany, cause or result from this decline of functioning. Furthermore, the recruitment of these patients makes it possible to investigate diagnosis variability, and biological and psychosocial aspects of psychosis, longitudinally.

Criteria of FEP

Breiborde et al. (2009) tried to clarify the concept of FEP with a review of the definition of the different main programs and research that study FEP.

There are three main categories in the definition of FEP (see Table 4):

a- First treatment contact: consists of the individual's first contact. Recent reviews have found that the average of DUP and first treatment contact ranges from 6 weeks to 6 months. Given the inexactitude and variability of this messure, defining FEP is not practical.

b- Duration of antipsychotic medication use: this definition refers to the first time the person receives a prescription for antipsychotic medication. This definition raises the same problems as the previous one since DUP can vary up to the time a person receives appropriate treatment, and antipsychotics are being used in childhood with other means. In addition, there is no clear definition of the amount of time to consider a FEP; studies range from less than 3 days (Emsley, 1999) to 6 months (Murray et al., 2008).

c- Duration of psychosis: if patients experience psychotic symptoms for less than a pre-specified amount of time. This definition attemps to directly address the goal

of identifying individuals in the early course of psychosis. However this definition presents some challenges: (1) the accurate retrospective assessment, although there is evidence that demonstrates that individuals suffering a FEP can provide relatively precise information about the beginning of first symptoms (Maurer & Häfner, 1995; Yung & McGorry, 1996), in addition to the existence of reliable methods such as the IRAOS, Royal Park Multidiagnostic Instrument for Psychosis (P D McGorry et al., 1990) and the Symptom Onset in Schizophrenia inventory (Perkins et al., 2000). There is a lack of criteria to consider the cut-off point of an FEP since the deterioration varies across individuals, ranging between two and five years (Birchwood et al., 1998).

Table 4. Operational definition category in studies with an FEP sample (Breitborde et al., 2009).

Study	Operational definition category
Kane, Rifkin, Quitkin, Nayak, & Ramos-Lorenzi, 1982	First treatment contact
The Scottish First Episode Schizophrenia Group, 1988	First treatment contact
Jablensky et al., 1992	First treatment contact
Bromet et al., 1992	First treatment contact
Flaum, Andreasen, & Arndt, 1992	First treatment contact
Haas & Sweeney, 1992	First treatment contact
McGorry, Edwards, Mihalopoulos, Harrigan, & Jackson, 1996	First treatment contact
Hutton et al., 1998	First treatment contact
Browne et al., 2000	First treatment contact
Drake, Haley, Akhtar, & Lewis, 2000	First treatment contact
Cullberg, Levander, Holmqvist, Mattsson, & Wieselgren, 2002	First treatment contact
Craig et al., 2004	First treatment contact
Baldwin et al., 2005	First treatment contact
Morgan et al., 2006	First treatment contact
Lieberman et al., 1992	Duration of antipsychotic medication use (<12 weeks lifetime use)
Emsley, 1999	Duration of antipsychotic medication use (≤ 3 days)
Fannon et al., 2000	Duration of antipsychotic medication use (≤12 weeks)
Jørgensen et al., 2000	Duration of antipsychotic medication use (<12 weeks continuous use)
Johannessen et al., 2001	Duration of antipsychotic medication use (<12 weeks continuous use)
Malla et al., 2003	Duration of antipsychotic medication use (≤1 month)
Murray et al., 2008	Duration of antipsychotic medication use (< 6 months)
Jablensky et al., 1992	Duration of psychosis
Nuechterlein et al., 1992	Duration of psychosis
Castro-Fornieles et al., 2007	Duration of psychosis

(Permission to reproduce).

3. Personality and psychosis

The study of personality in patients with psychotic disorders has been questioned because of the classic belief that personality is destroyed after a psychotic episode (Bleuler, 1950; Kraepelin, 1971). In addition, Freud considered the personality deterioration associated with psychoses to be sufficiently severe so as to rule out psychotherapy. Nowadays, research supports the idea that personality traits and PDs in psychosis can be studied (Kentros et al., 1997), and as supported by Newton-Howes et al., (2010) the DSM is sufficiently distinguishable to allow PD identification in those with psychotic disorders. As a result, studies about personality in patients with psychosis have increased considering different models such as FFM (Dinzeo & Docherty, 2007), the Temperament and Character model (Miralles et al., 2014), and the clinical or pathological model (Simonsen et al., 2008).

3.1 The five major personality traits in patients with psychosis

The five major personality traits of the FFM -neuroticism, extraversion, openness, agreeableness, conscientiousness- in patients with psychosis in comparison to healthy control samples and their implications in the disorders have been deeply studied (Ohi et al., 2016).

3.1.1 Five-Factor model in patients with psychosis

Results in relation to how the five traits are present in patients with psychosis are different. Kentros et al. (1997) found in a sample of patients with schizophrenia and schizoaffective disorders that while neuroticism scores are elevated and conciousness is

low the rest remain very similar to the scores in the control sample. In relation to these results Gurrera et al. (2000) found in a sample of male patients with schizophrenia a trend toward lower extraversion and openness. Another study with FEP patients found lower extraversion, greater openness, greater agreeableness and only a higher trend on neuroticism in comparison to nonclinical controls (Couture, Lecomte, & Leclerc, 2007).

Ohi et al. (2016) did a meta-analysis in patients with schizophrenia and schizophrenia spectrum disorders considering the variety of the samples in relation to diagnosis, age at measurement and gender, among other variables. In this study they reached the conclusion that these patients have a characteristic personality profile that consists of lower extraversion, openness, agreeableness and conciousness as well as greater neuroticism compared to healthy control subjects.

Age has been considered to be a factor that could affect stability of personality traits. However, Ohi et al. (2016) did not find any influence in their meta-analysis. In fact, even within the same patients, personality traits were shown to be stable despite the fluctuation of psychosis over time (Beauchamp, Lecomte, Lecomte, Leclerc, & Corbière, 2006; Boyette, Nederlof, Meijer, de Boer, & de Haan, 2015; Kentros et al., 1997).

To our knowledge, gender differences within FFM traits have not been studied; nonetheless Ohi et al. (2016) found that only in agreeableness did gender have a moderating effect.

3.1.2 Clinical findings derived from the study of Five-Factor model in patients with psychosis

Premorbid personality traits of high neuroticism and low extraversion were associated with a risk of development of schizophrenia (Lönnqvist et al., 2009). In addition, first degree relatives of patients with schizophrenia and related disorders scored higher levels of neuroticism than healthy subjects (Boyette et al., 2013).

Although the correlations between personality traits and clinical symptoms are inconsistent among studies, some studies reported that patients with schizophrenia showed significant negative correlations between agreeableness and positive symptom severity and extraversion and negative symptom severity (Boyette et al., 2013; Compton et al., 2015) and that levels of neuroticism positively correlated with the severity of positive symptoms (Dinzeo, Cohen, Nienow, & Docherty, 2004; Lysaker, Wilt, Plascak-Hallberg, Brenner, & Clements, 2003).

Compton et al. (2015) found that higher neuroticism, and lower extraversion and agreeableness scores could be associated with longer DUP. They also found that psychosocial functioning correlated negatively with neuroticism and positively with extraversion, agreeableness and conciousness.

Some of these traits have also been related to relapse after an FEP. Gleeson et al. (2005) found that agreeableness acted as a mediating variable for relapse. In fact, these traits have been shown to be important for choosing a therapy group for psychosis (Beauchamp, Lecomte, Lecomte, Leclerc, & Corbière, 2013)

A review of the topic drew the following conclusions about the FFM traits. Dinzeo and Docherty (2007) concluded that a high score in neuroticism and low in extraversion increased the vulnerability to developing psychosis, having small social networks, and low QoL. These traits may differentially influence occupational

functioning in patients with psychosis. Furthermore, neuroticism seems to be related to higher psychotic symptom severity, affective symptoms and substance use. Agreeableness and extraversion seem to be related to comorbid antisocial PD, substance use and violence. In addition, agreeableness may affect severity of symptoms and low sociability and conciousness with high suicide rate. Finally, even though the relation is still not clear, it seems that openness may be related to low negative and depressive symptomatology and to better social functioning.

3.2 Temperament and Character model in patients with psychosis

Cloninger´s Temperament and Character traits in patients with psychosis in comparison to healthy control samples and their implications in this disorder have been well studied (Ohi et al., 2012).

Results in relation to how temperament and character traits are present in patients with psychosis are different. Personality trait analyses using the TCI have reported consistent differences between patients with schizophrenia and controls (Guillem, Bicu, Semkovska, & Debruille, 2002; Hori et al., 2008; Miralles et al., 2014; Ohi et al., 2012). Although not all of the results of these studies reached statistical significance, patients with schizophrenia had higher scores on self-transcendence and harm avoidance and lower scores on novelty seeking , persistence, reward dependence, self-directedness and cooperativeness than controls. In fact, most studies have observed that patients score significantly higher in harm avoidance and self-transcendence and significantly lower in self-directedness and cooperativeness compared with healthy controls (Ohi et al., 2012). Considering temperament traits, high harm avoidance has been proposed as a genetic vulnerability marker for developing schizophrenia (Sim, Kim, Yim, Cho, & Kim, 2012).

There are a couple of studies that compared these dimensions between a control an ROP and an HR samples, finding that TCI dimensions scores varied from the control sample to ROP and HR sample but not between the last two (Fresán et al., 2015; Song et al., 2013).

Differences in gender and age have been considered in the study of TCI. Gender has normally been studied as a covariate and not a main variable. Hori et al. (2008) presented an independent analysis comparing males and females among schizophrenia patients. In this study they found that males had significantly higher harm avoidance and lower self-directedness and cooperativeness than female patients. When the sample was divided by gender in order to be compared to a control sample, results did not vary from patients to control comparison. Male and female patients had significantly higher scores for harm avoidance and self-transcendence and lower scores for reward dependence, self-directedness , and cooperativeness than the male and female controls, respectively. However, the difference in the harm avoidance scores was significantly greater in the male whereas the difference in reward dependence was significantly greater in the female group (Miralles et al., 2014). In relation to age, to our knowledge there is no longitudinal study or study between different groups of ages. However, Ohi et al. (2012) found in a meta-analysis that age did not affect differences between patients and controls when studied as a moderator.

3.2.1 Clinical findings derived from the study of Temperament and character model in patients with psychosis

The relation between psychotic symptoms and TCI dimensions has been studied by different authors. Guillem et al. (2002) found that bizarre delusions were associated with self-directedness and self-transcendence, while auditory hallucinations were

associated with cooperativeness and the disordered dimension with harm avoidance. Ohi et al. (2012) showed significant positive correlations between harm avoidance and the negative and the depression/anxiety symptoms and negative correlations between self-directedness and both negative and depression/anxiety symptoms. By contrast Boeker et al. (2006) and Song et al. (2013) did not find any relationships between personality and symptoms.

Other variables such as number of admissions to a psychiatric hospital or suicide attempts have been studied in relation to these dimensions. The number of psychiatric hospital admissions has been proved to be differentially related with high scores for novelty seeking in males, and with low scores in self-directedness in females. In addition, the number of suicide attempts has been foud to be negatively correlated with self-directedness and self-transcendence in male but not female schizophrenia patients (Miralles et al., 2014).

Song et al. (2013) studied the association of psychosocial functioning and conversion to psychosis with the TCI in patients at HR and ROP. Both clinical groups showed abnormal personality traits in terms of temperament (higher harm avoidance, lower reward dependence and persistence) and character (lower self-directedness and cooperativeness). Psychosocial functioning was associated with higher cooperativeness in HR patients and with lower harm avoidance and higher self-directedness in ROP patients. Finally, the baseline cooperativeness dimension was a significant predictive dimension for conversion to psychosis.

3.3 The clinical or pathological model of personality in patients with psychosis

Diagnosing co-occuring PDs in psychiatric patients with an Axis I disorder is clinically important because of their association with the duration, recurrence, and outcome of Axis I disorders. Differential diagnosis amongst the PDs has implications for psychotherapeutic and pharmacologic approaches (Zimmerman et al., 2008).

3.3.1 Comorbidity

Rates between psychosis and PDs have been estimated to be between 17-85% (Lecomte, Gumley, & Lysaker, 2012). When considering specific PDs the rates varies even more between studies (see Table 4). This variability depends on different factors such as country of study, care, study methodology, and the instrument used to assess personality (Newton-Howes et al., 2010). The stability of PD diagnosis is also relevant; personality malfunction is much more common in younger people (when schizophrenia usually develops) and becomes less over time (Skodol, Johnson, Cohen, Sneed, & Crawford, 2007). In addition, higher rates in outpatients are understood by the difficulty of assessing PD when floridly psychotic symptoms occurs.

It is current opinion that the severity of personality pathology, rather than a particular subtype, may have greater long term importance (Tyrer & Seivewright, 2000). However, study has also been made of which PDs or clinical personality traits are most common in this population. Results vary among the different studies in a number of ways. Firstly, there are the different models of personality and their corresponding instruments. Even though we have only considered the clinical personality model for the purpose of this section, the tools are various. Secondly, there is variation because of the

way personality is measured (either by informants or by the patients themselves). Thirdly, there is the factor of the diagnoses included in the term psychosis and the age of the patients.

Prevalence varies across studies. In relation to PD clusters, it is been seen that prevalence of cluster B PDs is high (Lysaker, 2004; Wickett et al., 2006). Keshavan et al. (2005) found that clusters A and C, in particular avoidant PD, were the highest in patients with schizophrenia, and that cluster B PDs were higher in patients with non-schizophrenic psychotic disorders.

Prevalence rates of PDs are significantly increased in HR patients (Schultze-Lutter, Klosterkötter, Michel, Winkler, & Ruhrmann, 2012) in comparison to control subjects. Borderline PDs have been broadly described in HR patients. Ryan et al. (2015) described in their study how a quarter of their HR sample had a comorbid borderline PD. However it has been proved that the co-occurring of this disorder does not appear to strongly influence the risk of short-term transition to psychosis or the risk of developing a non-affective psychotic disorder (Thompson et al., 2012). In fact, personality dimensions and PD seem to be of little value for facilitating early detection but they may be important to consider in early intervention approaches (Schultze-Lutter, Klosterkotter, Nikolaides, & Ruhrmann, 2015).

Table 5. The prevalence of PD in samples of patients with psychosis.

Author, year	Country	Type of care	Methodology	Population	N	Male (%)	Age mean (SD)	Tool to measure PD	PD (%)	Prevalence (%)	1 PD	>1 PD
Fornells-Ambrojo et al., 2015	United Kingdom	Outpatients	Cohort	FEP	49	61.2	28.4(4.8)	SCID-II	Paranoid: 25, schizoid: 4, antisocial 8, borderline: 12, histrionic: 0, narcissistic: 10, avoidant: 12, dependent: 2, compulsive 4	45	25	20
Torgalsboen et al., 1999	Norway	Hospital and outpatients	Cohort	Schizophrenia	33	66.7	36.6 (6.7)	Clinical diagnosis	Schizoid: 12, schizotypal: 3, antisocial: 3, borderline: 24.24, dependent: 3	45.3	n/r	n/r
Simonsen et al., 2008	Denmark	Hospital	Naturalistic	FEP	55	69.09	32.7 (10.8)	SCID-II	Paranoid: 28, schizoid: 38, schizotypal 6, antisocial: 12, borderline: 25, histrionic: 6, narcissistic 16, avoidant: 34, dependent: 13, compulsive: 22	69	16	53
								MCMI-III	Paranoid: 3, schizoid: 28, schizotypal: 19, antisocial: 13, borderline: 22, histrionic: 9, narcissistic: 9, avoidant: 38, dependent: 19, compulsive: 3	n/r	n/r	n/r
Moran et al. 2003	United Kingdom	n/r	RCT	Psychotic disorder	670	56.72	≤40 61.2%	PAS-R	Paranoid: 8.9, schizoid 9.9, antisocial: 6.1, borderline: 4.5, histrionic: 3.7, compulsive: 1.8, dependent: 4, anxious: 5.8, impulsive: 8.2	28	n/r	n/r
Jackson et al., 1991	Australia	Hospital	Naturalistic	Recent onset schizophrenia	35	82.8	26.5 (5.1)	SIDP	Paranoid: 11, schizoid: 9, schizotypal: 29, antisocial: 20, Borderline: 14, histrionic: 14, narcissistic: 6, avoidant: 9, dependent: 6, compulsive 6, passive agressive: 9	n/r	n/r	n/r
Lindstrom et al., 2000	Sweeden	n/r	Naturalistic	Schizophrenia	91	64.8	39 (11)	DIP-Q	Paranoid: 25, schizoid: 9, schizotypal: 26, antisocial: 1, borderline: 29, histrionic: 15, narcissiscitc: 14, avoidant: 35, depedent: 16, compulsive: 31%	47	n/r	n/r
Hogg et al 1990	USA	Hospital	Naturalistic	Recent onset schizophrenia	40	80	26.33 (5.08)	SIDP	Paranoid: 10, schizoid: 2.5, schizotypal: 22.5, antisocial: 10, borderline: 12.5, histrionic: 7.5, narcissiscitc: 5, avoidant: 10, depedent: 5, compulsive: 2.5	57.5	30	27.5
								MCMI-I	Paranoid: 8.1, schizoid: 16.2, schizotypal: 5.41, antisocial: 5.41, borderline: 0, histrionic: 0, narcissiscitc: 35.14, avoidant: 29.73, depedent: 35.14, compulsive: 5.41, passive agressive: 10.81	70.3	24.32	45.95
Oulis et al., 1997	Greece	n/r	Naturalistic	Schizophrenia	112	n/r	38.1(12.6)	SCID-II	Paranoid: 32.3, schizoid: 9.8, schizotypal: 19.6, antisocial: 4.9, borderline: 11.8, histrionic: 11.8, narcissiscitc: 14.7, avoidant: 21.6, depedent: 17.6, compulsive: 22.5, passive agressive:23.5	n/r	n/r	n/r
Wei et al., 2016	China	Outpatients	Naturalistic	Schizophrenia	850	43.6	31.7 (9.8)	PDQ-4+	Paranoid: 39.3, schizoid: 19.65, schizotypal: 36.94, antisocial: 25.29, borderline: 37.88, histrionic: 29.88, narcissiscitc: 25.88, avoidant: 52.59, depedent: 29.88, compulsive: 48.24, passive agressive:34.25, depressive: 30.47	n/r	n/r	n/r
								SCID-II	Paranoid: 7.65, schizoid: 2.35, schizotypal: 4.35, antisocial: 0.24, borderline: 2, histrionic: 1.18, narcissiscitc: 1.06, avoidant: 7.53, depedent: 3.41, compulsive: 3.53, passive agressive:2.71, depressive: 5.18	n/r	n/r	n/r
Coolidge et al., 2000	USA	Inpatients	Cohort	Schizophrenia	30	n/r	39.4 (10.1)	CATI	Paranoid: 10, schizoid: 17, schizotypal: 17, antisocial: 47, borderline: 27, histrionic: 7, narcissiscitc: 10, avoidant: 10, depedent: 13, compulsive: 7, passive agressive: 30	66	n/r	n/r
		n/r		Psychotic disorder	30	40	63.3 (6.4)		Paranoid: 0, schizoid: 17, schizotypal: 0, antisocial: 10, borderline: 10, histrionic: 0, narcissiscitc: 3, avoidant: 7, depedent: 13, compulsive: 10, passive agressive:3	58	n/r	n/r

Note: %: percentage; SD: standard deviation; PD: Personality Disorders; FEP; first episode of psychosis SCID-II; Structured clinical Interview for DSM-IV-TR-II n/r: not reported;MCMI-III: Millon Clinical Multiaxial Inventory-III; PAS-R: Personality Assessment Schedule; SIDP: Structured Interview for DSM-III Personality Disorders; RCT: Randomized controlled trial; DIP-Q: DSM-IV and ICD10 Personality questionnaire; PDQ-4: Personality Diagnostic Questionnaire; Coolidge Axis II Inventory.

3.3.2 Clinical implications of comorbidity of psychosis and personality disorders

The implications of the comorbidity of having a PD or a high severity of a certain clinical trait in psychosis are being studied. Lysaker et al. (2004) found that higher levels of histrionic and narcissistic traits in schizophrenia spectrum disorders were related to poorer neurocognition while higher levels of narcissistic traits negatively correlated with childhood physical abuse. In addition, they found that higher levels of borderline traits were uniquely related to the report of childhood sexual abuse while higher levels of antisocial traits were related to higher levels of childhood physical abuse.

Patients with a psychotic disorder who also have a comorbid PD may benefit less from treatment than patients who do not have PDs (Therien, Lavarenne, & Lecomte, 2014), those with greater use of inpatient psychiatric services and an increased likelihood of involuntary hospitalization (Fok et al., 2014), and those with worse social functioning (Newton-Howes & Marsh, 2013).

The relation between personality and psychotic symptoms is well supported. Cuesta (2002) suggested that premorbid personality may shape the expression of psychosis and found a correlation between negative psychotic symptoms and schizoid personality trait. Wickett et al. (2006) also found some correlations between psychotic symptoms and clinical personality traits. They found that emotional discomfort symptoms were significantly related to level of borderline traits, higher levels of positive symptoms were linked with more avoidant traits and fewer dependent traits, and higher levels of negative symptoms were linked with greater avoidant traits. In addition, they found that emotional discomfort was more closely related to borderline traits and psychiatric admissions to avoidant traits in patients with schizophrenia and schizoaffective disorder. In fact, the relation between personality and psychotic

symptoms is well studied and the hypotheses of this relation are various. It has been argued that premorbid personality in psychosis may have a pathoplastic effect, interacting with clinical symptoms at the onset of psychosis, or else may represent a vulnerability marker for such a condition during neurodevelopmental processes in adolescence and young adulthood (Cuesta, Gil, Artamendi, Serrano, & Peralta, 2002). In addition, other authors suggest that symptom dimensions could be partially understood as manifestations of personality (Guillem et al., 2002; Lysaker, Bell, Kaplan, Greig, & Bryson, 1999).

3.3.3 Clinical personality in patients with psychosis by gender

Gender differences in PD prevalence are well studied in the DSM. However, there is less research in relation to the study of gender differences in the personality of patients with psychosis. Jackson et al. (1991) found in a sample of recent onset schizophrenia patients that significantly more males met the criteria for schizoid and antisocial PDs than females and that and there was a trend for more females to meet the criteria for dependent PD than for males. Turning to gender differences, prevalences of schizoid and antisocial PDs were found in higher proportion in men by the DSM-5. However, many other gender differences that are normally found in the general population were not found within this sample. In addition to this study, there are two previous studies that examined gender in premorbid PDs in patients with psychosis. The first found that women diagnosed with schizophrenia had more explosive traits than men (Dalkin, Murphy, Glazebrook, Medley, & Harrison, 1994). The second found that female patients with an earlier onset scored higher in avoidant and depressive traits in comparison to late onset women, and also found that early onset men scored higher in

paranoid and schizoid in comparison to late onset who scored higher in narcissistic personality traits (Skokou & Gourzis, 2014).

3.4 Quality of life and personality in patients with psychosis

Quality of life is an underresearched area in relation to personality in patients with psychosis. However, recent research has shown the importance of the study of this area. Quality of life (QoL) is affected by psychosis and personality. A recent study in patients with psychosis demonstrated that neuroticism modulates quality of life (Ridgewell, Blackford, McHugo, & Heckers, 2017). Other studies have shown that QoL is inversely associated with symptom severity and particularly with negative and depressive symptoms (Boyette, Korver-Nieberg, Meijer, & de Haan, 2014; Eklund, Bäckström, & Hansson, 2003; Lambert & Naber, 2004). A different study found a relation between positive symptoms and social subtype of QoL (Boyette, Korver-Nieberg, et al., 2014). In addition, it has been found that PD comorbid to ROP affects environmental and psychological QoL in patients with ROP (Cotton, Gleeson, Alvarez-Jimenez, & McGorry, 2010).

RATIONALE OF THE EMPIRICAL FRAMEWORK

Rationale of the empirical framework

The early phases of the illness represent an important period, both from a research viewpoint and also in relation to the outcome of the illness and an individual's future prognosis. The study of clinical and sociodemographic variables in early phases has been much studied, but personality was not studied in depth until the last decade.

In the last decade the study of personality in patients with psychosis has increased. Results are showing the importance of the study of this variable in relation to the illness itself and the functioning of the person.

The study of personality is intriguing considering the different models. The study of personality in psychosis is increasing. Personality in patients with psychosis has been studied with three different models: the FFM (McCrae & John, 1992), the psychobiological model of temperament and character (Cloninger et al., 1993) and the clinical or pathological personality model (Millon, 1976).

The first two models have been more comonly studied. In the FFM, factors have been found to be related with vulnerability to developing psychosis, higher psychotic symptom severity, more affective symptoms and substance use, and low sociability among other variables (Dinzeo & Docherty, 2007), while the factors of the temperament and character model have been found to be related with psychotic symptoms, number of admissions to hospital, suicide attemps and lower social functionig (Miralles et al., 2014).

Focusing on the latter, the clinical model considers that normative and clinically significant personalities lie along a continuum, with disordered character being an exaggeration of normative traits. Normative and clinically significant personalities share

the same traits; nonetheless in clinically significant personalities these traits are rigid and maladaptive (Millon, 1990). Studies with this model are scarce; however results are promising as a new variable to take into account in the rehabilitation process because of the implications and relations that clinical personality variables have in aspects of the clinical process such as use of psychiatric services (Fok et al., 2014), worse social functioning (Newton-Howes & Marsh, 2013), quality of life (Boyette, van Dam, et al., 2014) and psychotic symptoms (Cuesta et al., 2002).

However, even within the same model results are complex and difficult to compare because of the different variables included such as the instruments used to measure personality, the psychosis sample considered, and the study of present versus premorbid personality.

For this thesis we chose the MCMI-III to assess personality because of the broad number of personality types considered and also because of the advantage of the study of personality traits both dimensionally and categorically, the latter by dichotomizing traits into normative and clinically significant categories.

To sum up, this research, presented as a compendium of publications, is focused on the study of clinical personality traits and its clinical implications, considering the clinical personality model of Millon in patients at HR (one study) and ROP (three studies).

OBJECTIVES

Objectives

This thesis was written with the aim of providing an overview of the importance of the study of clinical personality traits in patients with ROP and HR. It is composed of four articles published in journals that are indexed in the Journal Citation Reports (JCR). Each article focuses on one of the aims of this thesis highlighting the importance and implications of the study of personality in the early phases of the disorder.

The main objectives were:

1. **To describe clinical personality traits in patients with ROP compared to a control sample and considering gender –Study 1**

    1.1 To analyse demographic and clinical variables by gender.

    1.2 To study personality traits, CSPTs and clusters in the overall sample

    1.3 To study personality traits, CSPTs and clusters in men and women and compare them to their control counterparts.

2. **To study the relation between clinical personality traits and psychotic symptoms – Study 2**

    2.1 To describe dimensional personality traits, CSPTs and also complex personality.

    2.2 To study the relation between traits and psychotic symptoms

    2.3 To study the relation between CSPTs and different clinical variables.

    2.4 To study the effect sex and age had on the relation of CSPTs and symptoms.

3. **To analyse the relation among quality of life, psychotic symptoms and clinical personality traits. - Study 3**

    3.1 To assess the relation of sociodemographic, clinical, and personality variables with the different domains of QoL in patients with ROP.

    3.2 To study the effect that all the studied significant variables had on the different domains of QoL.

4. **To describe personality traits and their clinical implication in an HR sample – Study 4**

    4.1 To explore CSPTs in a group of help-seeking individuals at HR and compare them with a matched sample of HVs.

    4.2 To analyze the relationship of CSPTs with clinical symptoms, functioning and possible transitions to psychosis in HR individuals.

METHOD

1. Method

Since studies 1, 2 and 3 are part of the same project they are hightly related and mostly share the same patient sample, part of the procedure and some measurement instruments.

1.1 Method of study 1: Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender

A descriptive, cross-sectional study was carried out in patients consecutively recruited in two adult ROP rehabilitation day programs.

Participants

A sample of consecutive patients with ROP was examined. The patients were recruited from two adult ROP rehabilitation day programs in the Malaga and Granada regions. Patients were entered in the study if they: (1) met criteria for a DSM-5 diagnosis of schizophrenia, schizophreniform, schizoaffective disorder, delusional disorder, psychotic disorder induced by substance use, psychotic disorder: not otherwise specified, or brief psychotic episode; (2) were between 18 and 35 years old; (3) were stable for at least 8 weeks after hospitalization (Mayoral et al., 2008) to limit the potential confounding effect of acute symptomology on test performance; (4) were fluent in Spanish; (5) and were able to provide informed consent. Exclusion criteria included: (1) traumatic brain injury, dementia or intellectual disability (IQ < 70), which was assessed with the Wechsler Adult Intelligence Scale III (WAIS-III; Wechsler, 1997) if the referring clinician (senior psychiatrist or clinical psychologist) suspected intellectual disability.

At the same time, a control sample was also collected. Control participants were recruited via an advertisement on an online social network where the research was

briefly explained. The recruitment procedure was helped by the 'snowball' technique, by which any person who found it interesting could re-post the advertisement and enroll in the study. Control participants were screened for the absence of any schizophrenia spectrum disorder using an ad hoc structured paper response interview based on the SCID-I. Control participants were matched with the patient sample in terms of gender and age.

Instruments

Sociodemographic and clinical questionnaires were made ad hoc for the purpose of this study. The sociodemographic questions were gender, marital status, and highest level of education completed. In relation to clinical variables, information on age of onset of psychosis, duration of illness, and age at assessment was elicited.

The Spanish adaptation of the MCMI-III, explained in the introduction section, was used. For the purpose of this study only clinical personality scales were included. Analyses were run considering personality traits as a continuum and as a dichotomous variable (normative versus clinically significant with a cutoff of 75 or above). In addition, three variables regarding the presence of each clinical personality cluster (A, B and C) were considered taking into account DSM–IV-TR classification. Clusters were calculated considering the clinically significant presence of at least one personality trait of a cluster.

Procedure

Patients from a consecutive sample who met inclusion/exclusion criteria were approached by their clinicians if they wanted to participate in the study. In case of acceptance, the participants received all the information and signed their informed consent. All patients were required to meet criteria for DSM-5 for the schizophrenia spectrum and other psychotic disorders. The diagnosis of schizophrenia spectrum

disorders was made on clinical grounds by the referring clinician taking into account the high reliability of clinically-based diagnoses of psychosis in comparison to instrument-based diagnoses (Newton-Howes and Marsh, 2013; Weaver et al., 2003). The ad hoc clinical and sociodemographic questionnaires were completed by the clinician and the patient. In a following session the MCMIIII was carried out by patients; in the event the patient had any doubt about the content or about how to complete the test, the first investigator (JSLL), blind to the patient diagnosis and symptoms, was available.

Statistical analysis

Sociodemographic and clinical characteristics were described by frequency or mean. T-Test for independent samples was used in order to study the differences in personality traits between patients and the control group for the overall sample and the male sample. Mann-Whitney U test was performed for the same purpose on the female sample. Finally, Fisher test was applied to find out if there were significant differences between each CSPT and personality clusters in the patient sample in comparison to the control group, taking into account that this variable was categorical. All the analyses were made for the whole group and then divided by gender. Analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 22.0. and size effect was calculated with a specific program (Becker, 2000).

1.2 Method of study 2: Personality traits and psychotic symptoms in recent onset of psychosis patients

A descriptive, cross-sectional study was carried out in patients consecutively recruited in two adult ROP rehabilitation day programs.

Participants

The same ROP patient sample that was described in Study 1 was used in this study.

Instruments

Sociodemographic and clinical questionnaires, as well as the MCMI-III described in Study 1, were used in this study.

In addition, the following instruments were used in this study:

The PANSS in its Spanish adaption was used. Patients were assessed by their reference clinician. Interrater reliability was found to be good to excellent. All clinicians were trained on this scale. For the purpose of this study, the model of the five factors of the PANSS that was performed in a sample of patients with ROP was used to analyze the data (Emsley et al., 2003).

The Global Assessment Functioning (GAF) (Endicott, Spitzer, Fleiss, & Cohen, 1976) was used to evaluate the global functioning of patients. The validated Spanish version of the DSM-IV was used (American Psychiatric Association, 1996).

Procedure

The same procedure explained for Study 1 was applied here. However, in this study we explained when the PANSS and the GAF were applied.

The PANSS scale was conducted by the referring clinicians after the ad hoc clinical and a sociodemographic questionnaire were completed by the clinician and the patient. Finally after conducting all the assessment process the GAF was scored by the clinician.

Statistical analysis

Demographic and clinical characteristics as well as personality traits scores were described by mean or frequency. Pearson correlations between personality traits and psychotic symptom dimensions were examined for our second purpose. Mann– Whitney U test was performed to find out if having a CSPT was related to symptom dimensions.

Finally, logistic regression with Forward Wald method was used in order to study the influence of sex, age and symptoms on personality. Analyses were performed using the SPSS version 22.0.

1.3 Method of study 3: Subjective quality of life in recent onset of psychosis patients, and its association with sociodemographic variables, psychotic symptoms and clinical personality traits

Participants

The same ROP patient sample that was described in study one was used in this study. However, this sample was only composed of the patients from the Malaga ROP rehabilitation day program.

Instruments

Sociodemographic and clinical questionnaires, as well as the MCMI-III and the PANSS described in Study 2, were used in this study. In addition, the following instrument was described:

WHOQOL-Bref (The WHOQOL Group, 1998) in its Spanish adaptation (Lucas-Carrasco, 1998) validated for patients with mental conditions, including schizophrenia (Lucas-Carrasco, 2012) was used. This instrument consists of 26 items that assess physical, psychological, and social relationships, and environmental domains.

Procedure

The same procedure explained in Study 2 applies here. However, in this study we explained when the WHOQOL-bref was applied.

WHOQOL-bref was completed by patients after the MCMI-III, but in the same session.

Statistical analysis

Sociodemographic and clinical characteristics, and QoL domains, were all described by mean or frequency. Pearson correlations and T student or Mann-Whitney U test (with non-parametrical data) were performed in order to find any relation between the four QoL domains and the sociodemographic, clinical, and personality variables. In the event subgroups were small relations were calculated if n ≥4. Multiple linear regressions with stepwise method were used in order to study the influence sociodemographic, clinical, and personality variables had on the different domains of QoL. Due to the exploratory nature of our study we did not perform multiple comparison corrections following Bender & Lange, (2001) considerations about these studies. Analyses were made using SPSS version 22.0.

1.4 Method of study 4: Clinically significant personality traits in individuals at high risk of developing psychosis

This study is part of a prospective, naturalistic study called PAATH: Prospective Analysis of At-risk-mental-states and Transitions into Psychosis at CAMEO Early Intervention in Psychosis Service, Cambridgeshire and Peterborough NHS Foundation

Participants

A sample of HR individuals was collected. 40 HR individuals that met criteria for the CAARMS, aged 18-35, in the CAMEO early intervention service were collected and followed up for three years or more in order to study conversion. At the same time, a control sample was collected. Control subjects interested in the study could only

participate if they were aged 18-35, resided in the same geographical area as HR participants, and did not have previous contact with mental health services.

Instruments

Sociodemographic (age, gender and ethnicity) and clinical measures were collected. In addition, the MCMI-III, the PANSS scale and the GAF in their English versions were used. Furthermore, in this study the following instruments were applied:

Mini International Neuropsychiatric Interview (MINI), Version 6.0.0 (Sheehan et al., 1998), a brief structured diagnostic interview for DSM-IV Axis I psychiatric disorders.

The Beck Depression Inventory, Version II (BDI-II; Beck et al., 1996) Beck et al., 1987) and the Beck Anxiety Inventory (BAI; Beck et al., 1988) were used to assess depressive and anxiety symptoms in both groups. BDI-II and BAI are widely used self-report instruments to assess depressive and anxiety symptom severity in the past two weeks.

Statistical analysis

Sociodemographic, clinical and personality variables were described in terms of mean or frequency. Fisher's exact test was employed to compare frequency of CSPTs between the two groups. Mann-Whitney U test was calculated to analyze the relationship of each CSPT with clinical symptoms and functioning in the HR group. Finally, logistic regression with Forward Wald method was carried out in order to study the influence of sex, age and symptoms on personality traits. All analyses were performed using SPSS version 22.0.

RESULTS

Results

The present thesis focuses on the study of clinical personality traits in ROP (Studies 1, 2 and 3) and HR (study 4) patients. As noted in the introduction, personality traits have recently been accepted as a field to study, even thnough it used to be considered that personality got destroyed after a psychotic episode (Eugen Bleuler, 1924; Kraepelin, 1971). This project describes clinical personality traits in ROP and HR patients as well as the clinical implications these personality traits have in relation to other clinical variables such as psychotic symptoms, functioning, QoL, anxiety and depression.

This thesis has been developed considering a continuum of PDs, which is why in Studies 1 and 2 we looked at clinical and CSPT influences. In other words, we have analyzed personality dimensionally and categorically and therefore treating personality as a trait and considering the heavy weight of traits in categories. However, Studies 3 and 4 only considered personality categorically in order to simplify results because of the number of variables included in each study. Nonetheless, in Study 4 the continuum of personality was considered also in terms of the weight of these traits in explaining PDs, and not only clinically significant traits.

To accomplish these objectives, we divided the thesis into four diferent aims that were answered in four studies, that have already been published.

1. Publication compendium

The following section includes additional details about the studies which make up the present doctoral thesis and the references to the appendixes in which they are included.

1.1 Results of Study 1: Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender (Appendix 1)

Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender

Authors: Julia Sevilla-Llewellyn-Jones, Pablo Cano-Domínguez, Antonia de-Luis-Matilla, Alberto Espina-Eizaguirre, Berta Moreno-Küstner, Susana Ochoa.

Journal: Schizophrenia Research - 1st Sept 2017 (online version).

DOI: http://doi.org/10.1016/j.schres.2017.08.042

Journal Citation Reports (JCR) 2016: 3.986

Scimago 2016: Psychiatry and mental Health: Q1

This study aimed to examine differences in clinical personality traits and CSPTs in a group of ROP patients compared with a healthy control sample by analyzing male and females separately.

Firstly, it analysed demographic and clinical variables by gender, and secondly studied personality traits, CSPTs and clusters in the overall sample and within gender.

Our results revealed significant differences between ROP patients and the control group in terms of clinical personality traits. One main finding in this study was that ROP patients had higher levels of clinical personality traits in all but histrionic, narcissistic and compulsive traits. In relation to CSPTs ROP patients had significantly more CSPTs in schizoid, avoidant, dependent, antisocial and cluster A in comparison to control participants. After dividing the analysis by gender, males with ROP presented differences in personality traits compared with controls in all the variables, except for sadistic personality. Male ROP patients scored higher in all but histrionic, narcissistic, compulsive and sadistic traits than their control counterparts. In the subsample of women, those with ROP were different from controls in all variables, except for narcissistic, antisocial, sadistic and compulsive. Regarding the CSPTs, when we compared control men and ROP men, differences were found in schizoid, avoidant, dependent, histrionic, antisocial and cluster A CSPTs. However, in the comparison between females of the two groups no differences were found for CSPTs.

The results of the present research highlight the importance of the study of clinical personality traits in patients with ROP, as the information about PDs has relevance in etiology, prognosis, and treatment in mental disorders (Therien et al., 2014; Zimmerman et al., 2008). The results suggest that personality could play a differential role in psychosis depending on gender. Therefore, gender differences in clinical personality traits of patients at ROP should be considered as an avenue to develop more integrative treatments.

1.2 Results of Study 2: Personality traits and psychotic symptoms in recent onset of psychosis patients (Appendix 2)

Personality traits and psychotic symptoms in recent onset of psychosis patients

Authors: Julia Sevilla-Llewellyn-Jones, Pablo Cano-Domínguez, Antonia de-Luis-Matilla, Inmaculada Peñuelas-Calvo, Alberto Espina-Eizaguirre, Berta Moreno-Küstner, Susana Ochoa.

Journal: Comprehensive Psychiatry –(April, 2017. Vol: 74: 109-117)

DOI: http://doi.org/10.1016/j.comppsych.2017.01.006

Journal Citation Reports (JCR) 2016: 2.194

Scimago 2016: Psychiatry and mental Health: Q1

In this study our aims were to describe dimensional personality traits, CSPTs and complex personality. In addition, we studied the relation between traits and psychotic symptoms and the relation between CSPTs and different clinical variables. Finally, we aimed to study the effect sex and age had on the relation of CSPTs and symptoms.

Firstly, we analysed personality traits, CSPTs and complex personality, secondly the relation between symptoms of psychosis and dimensional personality traits, thirdly the relation between clinical variables and CSPTs and finally the effects that sex, age and symptoms had on CSPTs.

Our results suggested that avoidant, narcissistic, compulsive and schizoid personality traits were the most frequent. In relation to symptoms, when considering them as a dimensional trait significant correlations of each trait with at least one

symptom dimension were found. In categorical terms, there was a significant relation between clinically significant schizoid personality trait and negative symptoms, not having clinically significant avoidant or depressive traits and the excited symptoms, having clinically significant dependent traits and anxiety and depression symptoms and clinically significant compulsive trait, and clinically significant histrionic traits and positive symptoms. Finally, when we controlled for the relationship of symptoms and personality with gender and age, gender explained schizoid, narcissistic, histrionic, compulsive and paranoid traits, while age only explained the dependent personality trait.

The results of the present study highlight the importance of examining personality in patients with psychosis as it broadens the understanding of the patients themselves and the symptoms suffered by them. In line with previous studies, the present study supports the relation between psychotic symptoms and PDs. Personality is shaped by or is related to the expression of symptoms. Therefore considering the importance of personality in different aspects of psychosis and the importance that PDs have in the etiology, prognosis and treatment of mental disorders (Zimmerman et al., 2008) we believe that this study brings out the importance of working on more integrated therapeutic approaches.

1.3 Results of Study 3: Subjective quality of life in recent onset of psychosis patients, and its association with sociodemographic variables, psychotic symptoms and clinical personality traits (Appendix 3)

Subjective quality of life in recent onset of psychosis patients, and its association with sociodemographic variables, psychotic symptoms and clinical personality traits

Authors: Julia Sevilla-Llewellyn-Jones, Pablo Cano-Domínguez, Antonia de-Luis-Matilla, Alberto Espina-Eizaguirre, Berta Moreno-Küstner, Susana Ochoa.

Journal: Early Intervention in Psychiatry (26th Dec, 2017).

DOI: http://doi.org/10.1111/eip.12515

Journal Citation Reports (JCR) 2016: 2.4

Scimago 2016: Psychiatry and mental Health: Q2

The aims of this study were to assess the relation of sociodemographic, clinical, and personality variables with the different domains of QoL in patients with ROP. Finally, the effect that all the studied significant variables had on the different domains of QoL was also studied.

Firstly, we analyzed the relation between sociodemographic and clinical variables and the different domains of QoL, and secondly the effects of personality and symptoms on QoL.

Our results suggested that some sociodemographic and clinical variables such as gender, age, age of onset, and diagnosis were not related to QoL. However, negative and disorganized psychotic symptoms and schizoid, depressive, histrionic and narcissistic CSPTs and clusters A and B were related to different QoL domains. Finally, the physical QoL domain was explained by negative symptoms, and narcissistic and depressive personality traits, and the psychological QoL by the narcissistic and depressive traits and the social relationship domain with negative symptoms and the histrionic trait.

These results hightlight that while symptoms are important to explain quality of life it seems of interest to also consider individual personality traits. These results shed light on the importance of considering other variables such as personality traits in the improvement of QoL in ROP patients. They suggest that while symptom-focused treatment is necessary for QoL improvement more integrated psychotherapeutic programs in ROP patients should be considered.

1.4 Results of Study 4: Clinically significant personality traits in individuals at high risk of developing psychosis (Appendix 4)

Clinically Significant Personality Traits in Individuals at High Risk of Developing Psychosis

Authors: Julia Sevilla-Llewellyn-Jones, Gustavo Camino, Debra A Russo, Angel l Montejo, Susana Ochoa, Peter Jones, Jesus Perez

Journal: Psychiatry Research (Mar, 2018).

DOI: http://doi.org/10.1016/j.psychres.2018.01.027

Journal Citation Reports (JCR) 2016: 2.528

Scimago 2016: Psychiatry and mental Health: Q1

In study 4 we aimed to explore CSPTs in a group of help-seeking individuals at HR and compare them with a matched sample of HVs. We also analyzed the relationship of CSPTs with clinical symptoms, functioning and possible transitions to psychosis in HR individuals.

We studied the sociodemographic profile, secondly CSPTs, thirdly DSM-IV Axis I Psychiatric Diagnoses, fourthly clinical symptoms, after the relationship of CSPTs with clinical symptoms and functioning in HR individuals and finally the effect of sex, age and clinical symptoms on CSPTs and the transitions from HR to First Episode Psychosis.

We found that the prevalence of CSPTs was very high amongst HR individuals. Our analysis revealed that three out of four of our HR sample suffered some type of PD, mainly depressive, borderline or schizotypal. Most personality traits were significantly more prevalent in HR, except histrionic and narcissistic, which were more frequent in HVs, and antisocial, sadistic and compulsive, which were similar in the two groups. In our study, we found a strong association between depressive personality traits and anxiety levels, and between borderline and paranoid traits and depressive symptoms. Our secondary analysis of possible relationships between clinical symptoms and personality traits in HR suggested that schizoid, paranoid and avoidant traits were related to negative psychotic symptomatology. On the other hand, borderline and antisocial traits were more related with excitation as measured by the PANSS. Finally we found low transition rates in our HR individuals.

To date, on the basis of our results and findings from other recent studies (Schultze-Lutter et al., 2012; Thompson et al., 2012), personality traits in those at HR offer a low predictive value for transition to psychosis. Nonetheless, our work supports the importance of exploring CSPTs in this population as they seem to have an influence on psychiatric morbidity, perpetuating these mental states, and, ultimately, affecting functioning. Psychological interventions focusing on underlying personality traits may provide another avenue to achieve symptom and functional recovery in people suffering from HR mental states.

DISCUSSION

Discussion

In order to write the discussion for this thesis I have proceeded to consider the results in terms of the aims of the first 3 studies and compare them with the 4th study when possible. With this approach I have sought to enrich the discussion by being able to compare results and not merely discuss them individually, as has already been done in each individual article.

1. Discussion among studies 1, 2, 3 and study 4

1.1 Clinical personality traits in ROP and HR samples

Most frequent clinical personality traits in the ROP patients sample were avoidant, narcissistic, compulsive and schizoid, while avoidant was also high in the HR sample. Some of the least frequent personality traits in the ROP patients' sample--borderline, schizotypal and masochistic--were of the highest frequency in the HR sample. Schultze-Lutter et al. (2012) compared personalities of people who were at HR of psychosis, and found within the converters a low proportion of schizotypal trait in contrast to schizoid traits. As they explained in their study, this is in relation to the finding of another cohort, family and adoption studies that reported schizoid traits as precursors in pre-schizophrenia groups. It is also in line with the classic belief that a worsening of previously present schizoid features produced schizophrenia (Bleuler, 1924; Kraepelin, 1913). The high prevalence of borderline personality in our HR sample is not surprising since it is normally found in these samples (Ryan et al., 2015;

Thompson et al., 2012) and these traits have not been shown to influence the short term transition to psychosis (Thompson et al., 2012) as our study reflected.

While ROP patients had significantly higher means on most personality traits except histrionic, narcissistic and compulsive, these results were not replicated in the HR sample since traits scoring below the cut-off point of CSPTs were missing. However, when both samples, HR and ROP, were compared to their control counterparts, most CSPTs were significantly higher in the patient sample except histrionic and narcissistic. These results are not surprising since these traits are normally found high in HVs and correlate positively with extroverted traits and negatively on items pertaining to maladjustment (Craig, 2005).

1. 2 Prevalence of clinically significant personality traits in high risk and recent onset of psychosis patients

CSPTs in ROP and HR samples had a very high prevalence compared to the prevalence obtained in other studies that have used this same test (Hogg, Jackson, Rudd, & Edwards, 1990). In addition, prevalence was higher in comparison to other studies that studied PDs. These differences may well be explained by the fact that we considered CSPTs which implied a lower cut-off point. Furthermore, this could be explained by the fact that the MCMI-III measures a higher number of personality traits in comparison to other scales. Also of relevance is the higher prevalence that exists in the HR patient sample in comparison to the ROP patient sample. However, these two samples were not statistically compared since they were two independent studies in two different countries (United Kingdom and Spain) and therefore cultural differences might have been playing a role. Considering the low transition rate in the HR sample, it is likely that certain personality profiles may not be markers for conversions to psychosis

but rather contribute to high morbidity in HR individuals as other studies support the conclusion that personality traits in those at HR offer a low predictive value for that purpose (Schultze-Lutter et al., 2012; Thompson et al., 2012).

1.3 Relation between personality and other variables

The relations of having some clinical personality traits were studied in both samples (Study 2, 3 and 4). While these relations emphasized the importance of the study of personality traits not all variables were studied in both samples since they were two independent studies.

1.3.1 Personality traits and psychotic symptoms in recent onset of psychosis and HR

While the relation between clinical personality traits and psychotic symptoms in ROP patients was examined it was not possible to replicate these analyses with personality traits in the HR sample. However, CSPT analyses were done in both samples. The findings of these relations are of interest since some relations were found in both samples, such as the relation of more negative psychotic symptoms and the presence of clinically significant schizoid personality trait and less positive symptoms in those with histrionic personality traits. Whilst the association between schizoid manifestations and negative symptoms is well reported (Cannon, Mednick, & Parnas, 1990; Cuesta et al., 2002), the finding that histrionic CSPT seemed to present with less intense positive psychotic symptoms than those without these traits may appear to be less intuitive. However, previous studies on recent onset psychosis described the same finding, attributing it to more proactive (less isolative) social behaviors and seeking help

(Wickett et al., 2006). In addition, we studied anxiety and depression individually in our HR patient sample. We found that higher depression scores were related to people with clinically significant borderline and paranoid personality traits and that anxiety scores related to clinically significant depressive personality traits. Perhaps some other relations between CSPTs and psychotic symptoms were not replicable because of the low or nonexistent CSPTs in one of the samples, such as the nonexistent masochistic or sadistic CSPTs in the ROP patient sample. We consider that these findings could support the hypothesis that personality traits may shape or influence the expression of psychotic symptoms as explained by Cuesta et al. (2002), Wickett et al. (2006) and Keshavan et al. (2005) or support a transdiagnostic approach by which syndromes and phenotypes are not clear and diagnoses are highly comorbid and exist on a continuum (Castellanos-Ryan et al., 2016; McGorry & Nelson, 2016). In fact, it may support the hypothesis of a developmental extension of a dimensional severity (Caspi et al., 2014) where a developmental progression of severity is considered. This theory hypothesizes that few individuals that manifest a brief episode of an individual disorder, progress to develop a persistent internalizing or persistent externalizing syndrome, ultimately emerging most likely with a psychotic condition during late adolescence or adulthood. This hypothesis is based on a general psychopathology factor (p) that in some individuals sequentially progress to an extreme elevation. By this hypothesis sequential comorbidity is the rule rather than the exception and individuals experiencing sequentially comorbid disorders also exhibit more severe psychopathology (Moffitt et al., 2007).

1.3.2 Quality of life and functioning in recent onset of psychosis patients

In Study 3 we examined how quality of life could be explained by psychotic symptoms and CSPTs. It is known that negative symptoms inversely correlate with QoL (Boyette, Korver-Nieberg, et al., 2014; Eklund et al., 2003; Lambert & Naber, 2004; Priebe et al., 2011). However, only one study has assessed QoL and personality in patients with psychosis (Cotton et al., 2010). In our results we found that QoL seemed to be better explained by negative psychotic symptoms and some clinical personality traits. In fact three out of four facets of QoL were explained by personality traits and only one facet was explained by symptoms. This finding is in relation to one study that found that whereas patients with psychosis had significantly worse objective quality of life than patients with PDs, the latter scored lower than patients with psychosis in subjective QoL, possibly as a result of the low capacity of people with PD to adapt to situations (Bouman, Van Nieuwenhuizen, Schene, & De Ruiter, 2008). Furthermore, when we studied the relation between functioning and CSPTs we found that better functioning was related to histrionic CSPT in ROP patients. Therefore, considering all the new situations that patients with an ROP have to face the comorbidity of clinical personality traits should be taken into consideration.

2. Limitations

General limitation (Studies 1, 2, 3 & 4):

- Personality was measured using a self-reported test (MCMI-III) instead of a structured interview. However, the MCMI-III is a validated instrument that includes validity scales to ensure accurate detection of DSM personality

traits and/or disorders (Strack & Millon, 2007). In addition, confidential self-reports usually produce more truthful responses (Paulhus & Vazire, 2010).

Limitations in ROP patients studies (Studies 1, 2 & 3)

- Onset of psychosis was also made on clinical grounds considering family and patient information given to the referring clinician. Nonetheless, there is promising evidence suggesting that individuals experiencing their FEP can provide relatively precise estimates of the onset of psychotic symptoms (Breitborde et al., 2009).
- The diagnosis of schizophrenia spectrum disorders was made on clinical grounds instead of using a clinical interview. However, high reliability of clinical-based diagnoses of psychosis in comparison to instrument-based diagnoses has been demonstrated (Newton-Howes & Marsh, 2013; Weaver et al., 2003).

Limitation in Study 1

- Lack of analysis comparing female with male ROP patients. Analyses that would have compared women to men may not have had enough power to detect differences because of the small sample size of women. In addition, we considered it to be of crucial importance to study differences within gender to analyze whether there were differences because of the illness and not because of gender itself as other studies suggest (Skokou & Gourzis, 2014; Vaskinn et al., 2011; Walder et al., 2006).

Limitation in Study 4

- The small sample of HR individuals. Given the clinical heterogeneity amongst individuals at HR, a larger sample, with more conversions, might have also provided a better idea of personality profiles that may contribute to the development of frank psychotic disorders.
- Short follow-ups. More time might have allowed for detection of more conversions to psychotic disorders in our HR sample, which could have allowed meaningful personality comparisons with non-converters. However, at the time of this report, all HR individuals were followed up for three years or more, with no clear indication of further transitions in the short-term.

3. Strengths

One of the greatest strengths of our study is the novelty of examining clinical personality traits in patients at HR and ROP since this is a new field of interest. These studies report interesting new findings in relation to the importance of studying personality because of its clinical implications.

Another strength of this study is the dimensional and categorical approach to personality because of the selected instrument. The MCMI-III allowed us to approach our data dimensionally and categorically, avoiding the argument as to which is more appropriate by being inclusive in the approach (Tyrer, 2005).

4. Future directions

Future research should be aimed at increasing our knowledge of the study of clinical personality traits and PDs in patients with ROP and HR since it seems to affect different facets of these patients.

We believe that it would be of interest to replicate the study of HR individuals with a bigger sample in order to obtain a larger number of transitions, since it was not possible to study the personality profile of those patients who convert to psychosis because of the low transition rate in our HR sample.

Considering the previous point, a longitudinal study, in which conversion to psychosis rate was higher, - taking into account gender and personality in HR patients-, could be of interest in order to explore the stability of personality traits and the importance that some traits may have in conversion to psychosis.

A study of gender differences in personality traits would be of interest in order to study the differential effect that gender differences in personality might have on psychosis.

CONCLUSIONS

Conclusions

The study of personality in psychosis has started to take on relevance in the past two decades. The results of this thesis are an attempt to shed light on this field and add some interesting data on the necessity to assess personality, and to have this assessment in consideration when designing patient treatment, since in light of our results clinical personality traits are related with variables of interest such as psychotic symptoms, QoL, emotional variables and functioning. Given the results of this study, working on more integrated therapeutic approaches that include clinical personality traits and PDs seems of crucial importance at the present moment.

REFERENCES

References

Aboraya, A., Tien, A., Stevenson, J., & Crosby, K. (1988). Schedules for Clinical Assessment in Neuropsychiatry (SCAN): introduction to WV's mental health community. *The West Virginia Medical Journal*, *94*(6), 326–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9868378

Aguilar, Á., Tous, J. M., & Andrés-Pueyo, A. (1990). Adaptación y estudio psicométrico del EPQ-R. *Anuario de Psicología*, *3*(46), 101–118. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1991-74692-001&site=ehost-live&scope=site

Alemany, S., Goldberg, X., van Winkel, R., Gastó, C., Peralta, V., & Fañanás, L. (2013). Childhood adversity and psychosis: Examining whether the association is due to genetic confounding using a monozygotic twin differences approach. *European Psychiatry*, *28*(4), 207–212. http://doi.org/10.1016/j.eurpsy.2012.03.001

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington, DC.

American Psychiatric Association. (1996). *Manual Diagnóstico y Estadístico de los Trastornos Mentales DSM-IV*. Barcelona: Masson.

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR* (4th ed., t). Washington, DC.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Washington, DC: American Psychiatric Association. Retrieved from http://www.amazon.es/DSM-5-Diagnóstico-Estadístico-Trastornos-Mentales/dp/8498358108/ref=sr_1_1?ie=UTF8&qid=1433343850&sr=8-1&keywords=dsm-5

American Psychiatry Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC.: APA.

Andreasen, N. (1983). *The scale for the assessment of negative symptoms (SANS)*. Iowa City: University of Iowa.

Andreasen, N. (1984). *The scale for the assessment of positive symp-toms (SAPS)*. Iowa City: University of Iowa.

Arciniegas, D. B. (2015). Psychosis. *Continuum (Minneapolis, Minn.)*, *21*(3 Behavioral Neurology and Neuropsychiatry), 715–36. http://doi.org/10.1212/01.CON.0000466662.89908.e7

Ávila, A., & Jiménez, F. (1999). *Adaptación española del MMPI-2*. Madrid: TEA Ediciones.

Baker, L. A., & Daniels, D. (1990). Nonshared environmental influences and personality differences in adult twins. *Journal of Personality and Social Psychology*, *58*(1), 103–10. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2308067

Baldwin, P., Browne, D., Scully, P. J., Quinn, J. F., Morgan, M. G., Kinsella, A., … Waddington, J. L. (2005). Epidemiology of First-Episode Psychosis: Illustrating the Challenges Across Diagnostic Boundaries Through the Cavan-Monaghan Study at 8 Years. *Schizophrenia Bulletin*, *31*(3), 624–638. http://doi.org/10.1093/schbul/sbi025

Beauchamp, M.-C., Lecomte, T., Lecomte, C., Leclerc, C., & Corbière, M. (2006). Do people with a first episode of psychosis differ in personality profiles? *Schizophrenia Research*, *85*(1–3), 162–7. http://doi.org/10.1016/j.schres.2006.03.026

Beauchamp, M.-C., Lecomte, T., Lecomte, C., Leclerc, C., & Corbière, M. (2013). Do personality traits matter when choosing a group therapy for early psychosis? *Psychology and Psychotherapy*, *86*(1), 19–32. http://doi.org/10.1111/j.2044-8341.2011.02052.x

Bechdolf, A., Pukrop, R., Köhn, D., Tschinkel, S., Veith, V., Schultze-Lutter, F., … Klosterkötter, J. (2005). Subjective quality of life in subjects at risk for a first episode of psychosis: a comparison with first episode schizophrenia patients and healthy controls. *Schizophrenia Research*, *79*(1), 137–43. http://doi.org/10.1016/j.schres.2005.06.008

Bender, R., & Lange, S. (2001). Adjusting for multiple testing--when and how? *Journal of Clinical Epidemiology*, *54*(4), 343–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11297884

Bernstein, D. P., Iscan, C., & Maser, J. (2007). Opinions of Personality Disorder Experts Regarding The DSM-IV Personality Disorders Classification System. *Journal of Personality Disorders*, *21*(5), 536–551. http://doi.org/10.1521/pedi.2007.21.5.536

Birchwood, M., & Fiorillo, A. (2000). The Critical Period for Early Intervention. *Psychiatric Rehabilitation Skills*, *4*(2), 182–198. http://doi.org/10.1080/10973430008408405

Birchwood, M., McGorry, P., & Jackson, H. (1997). Early intervention in schizophrenia. *The British Journal of Psychiatry : The Journal of Mental Science*, *170*, 2–5. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9068766

Birchwood, M., Todd, P., & Jackson, C. (1998). Early intervention in psychosis. The critical period hypothesis. *The British Journal of Psychiatry. Supplement*, *172*(33), 53–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9764127

Bland, R. C., Newman, S. C., & Orn, H. (1987). Schizophrenia: lifetime co-morbidity in a community sample. *Acta Psychiatrica Scandinavica*, *75*(4), 383–91. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/3495958

Bleuler, E. (1924). *Textbook of psychiatry*. New York: The Macmillan company. Retrieved from https://archive.org/details/textbookofpsychi00bleu

Bleuler, E. (1950). *Dementia Praecox or the Groups of Schizophrenias*. Oxford: International University Press.

Boeker, H., Kleiser, M., Lehman, D., Jaenke, L., Bogerts, B., & Northoff, G. (2006). Executive dysfunction, self, and ego pathology in schizophrenia: An exploratory study of neuropsychology and personality. *Comprehensive Psychiatry*, *47*(1), 7–19. http://doi.org/10.1016/j.comppsych.2005.04.003

Bouman, Y. H. A., Van Nieuwenhuizen, C., Schene, A. H., & De Ruiter, C. (2008). Quality of life of male outpatients with personality disorders or psychotic disorders: a comparison. *Criminal Behaviour and Mental Health : CBMH*, *18*(5), 279–91. http://doi.org/10.1002/cbm.703

Bourque, F., van der Ven, E., & Malla, A. (2011). A meta-analysis of the risk for psychotic disorders among first- and second-generation immigrants. *Psychological Medicine*, *41*(5), 897–910. http://doi.org/10.1017/S0033291710001406

Boutros, N., Bonnet, K., & Mak, T. (1996). Drug abuse: a significant variable in schizophrenia research. *Biological Psychiatry*, *39*(12), 1053–4. http://doi.org/10.1016/0006-3223(95)00668-0

Boyette, L.-L., Korver-Nieberg, N., Meijer, C., & de Haan, L. (2014). Quality of life in patients with psychotic disorders: impact of symptoms, personality, and attachment. *The Journal of Nervous and Mental Disease*, *202*(1), 64–9. http://doi.org/10.1097/NMD.0000000000000071

Boyette, L.-L., Korver-Nieberg, N., Verweij, K., Meijer, C., Dingemans, P., Cahn, W., … GROUP. (2013). Associations between the Five-Factor Model personality traits and psychotic experiences in patients with psychotic disorders, their siblings and controls. *Psychiatry Research*, *210*(2), 491–497. http://doi.org/10.1016/j.psychres.2013.06.040

Boyette, L.-L., Nederlof, J., Meijer, C., de Boer, F., & de Haan, L. (2015). Three year stability of Five-Factor Model personality traits in relation to changes in symptom levels in patients with schizophrenia or related disorders. *Psychiatry Research*, *229*(1–2), 539–44. http://doi.org/10.1016/j.psychres.2015.05.057

Boyette, L.-L., van Dam, D., Meijer, C., Velthorst, E., Cahn, W., de Haan, L., … Myin-Germeys, I. (2014). Personality Compensates for Impaired Quality of Life and Social Functioning in Patients With Psychotic Disorders Who Experienced Traumatic Events. *Schizophrenia Bulletin*. http://doi.org/10.1093/schbul/sbu057

Braga, R. J., Mendlowicz, M. V, Marrocos, R. P., & Figueira, I. L. (2005). Anxiety disorders in outpatients with schizophrenia: prevalence and impact on the subjective quality of life. *Journal of Psychiatric Research*, *39*(4), 409–14. http://doi.org/10.1016/j.jpsychires.2004.09.003

Breitborde, N. J. K., Srihari, V. H., & Woods, S. W. (2009). Review of the operational definition for first-episode psychosis. *Early Intervention in Psychiatry*, *3*(4), 259–65. http://doi.org/10.1111/j.1751-7893.2009.00148.x

Buckley, P. F., Miller, B. J., Lehrer, D. S., & Castle, D. J. (2009). Psychiatric comorbidities and schizophrenia. *Schizophrenia Bulletin*, *35*(2), 383–402. http://doi.org/10.1093/schbul/sbn135

Butcher, J., Graham, J., Tellegen, A., & Kaemmer, B. (1982). *Manual for the restandardized Minnesota Multiphasic Personality Inventory: MMPI-2*. Minneapolis: University of Minnesota Press.

Butcher, J., Williams, C., Graham, J., Archer, R., Tellegen, A., Ben-Porath, Y., & Kaemmer, B. (1992). *MMPI-A manual for administration, scoring, and interpretation*. Minneapolis: University of Minnesota Press.

Cannon, T. D., Mednick, S. A., & Parnas, J. (1990). Antecedents of predominantly negative- and predominantly positive-symptom schizophrenia in a high-risk population. *Archives of General Psychiatry*, *47*(7), 622–32. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2360856

Cardenal, V., Sánchez, M., & Ortiz-Tallo, M. (2007). *Adaptación y baremación al español del Inventario Clínico Multiaxial de Millon- III (MCMI-III)*. Madrid: TEA Ediciones.

Cardno, A. G., & Gottesman, I. I. (2000). Twin studies of schizophrenia: from bow-and-arrow concordances to star wars Mx and functional genomics. *American Journal of Medical Genetics*, *97*(1), 12–7. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10813800

Caspi, A., Houts, R. M., Belsky, D. W., Goldman-Mellor, S. J., Harrington, H., Israel, S., … Moffitt, T. E. (2014). The p Factor: One General Psychopathology Factor in the Structure of Psychiatric Disorders? *Clinical Psychological Science : A Journal of the Association for Psychological Science*, *2*(2), 119–137. http://doi.org/10.1177/2167702613497473

Castellanos-Ryan, N., Brière, F. N., O'Leary-Barrett, M., Banaschewski, T., Bokde, A., Bromberg, U., … IMAGEN Consortium. (2016). The structure of psychopathology in adolescence and its common personality and cognitive correlates. *Journal of Abnormal Psychology*, *125*(8), 1039–1052. http://doi.org/10.1037/abn0000193

Cattell, R., Cattell, A., & Cattell, H. (1993). *Sixteen Personality Factor Questionnaire, Fifth Edition.* Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R., & Porter, R. (1968). *Manual for the Children's Personality Questionnaire*. Champaign Ill.: Institute for Personality and Ability Testing IPAT. Retrieved from http://www.worldcat.org/title/manual-for-the-childrens-personality-questionnaire-cpq-ages-8-through-12/oclc/254325222

Cattell, R., Saunders, D., & Slice, G. (1949). *The Sixteen Personality Factor Questionnaire*. Champaing, IL: Institute for Personality and Ability Testing.

Chwastiak, L. A., & Tek, C. (2009). The unchanging mortality gap for people with schizophrenia. *The Lancet*, *374*(9690), 590–592. http://doi.org/10.1016/S0140-6736(09)61072-2

Cloninger, C. R., Montserrat, C., Bayón, C., Labad, A., Fernández Aranda, F., Valero, J., & Gutiérrez-Zotes, J. A. (2004). Inventario del Temperamento y el Carácter-Revisado (TCI-R). Baremación y datos normativos en una muestra de población general. *Actas Españolas de Psiquiatría, ISSN 1139-9287, Vol. 32, Nº. 1, 2004, Págs. 8-15*, *32*(1), 8–15. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=813877

Cloninger, C. R., Svrakic, D. M., & Przybeck, T. R. (1993). A psychobiological model of temperament and character. *Archives of General Psychiatry*, *50*(12), 975–90. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8250684

Cloninger, S. (2003). *Teorías de la personalidad*. Pearson Educación. Retrieved from https://www.casadellibro.com/libro-teorias-de-la-personalidad/9789702602286/880547

Cohen, L. J., Gertmenian-King, E., Kunik, L., Weaver, C., London, E. D., & Galynker, I. (2005). Personality measures in former heroin users receiving methadone or in protracted abstinence from opiates. *Acta Psychiatrica Scandinavica*, *112*(2), 149–58. http://doi.org/10.1111/j.1600-0447.2005.00546.x

Compton, M. T., Bakeman, R., Alolayan, Y., Balducci, P. M., Bernardini, F., Broussard, B., … Wan, C. R. (2015). Personality domains, duration of untreated psychosis, functioning, and symptom severity in first-episode psychosis. *Schizophrenia Research*, *168*(1–2), 113–9. http://doi.org/10.1016/j.schres.2015.06.028

Coolidge, F. L., Segal, D. L., Pointer, J. C., Knaus, E. A., Yamazaki, T. G., & Silberman, C. S. (2000). Personality disorders in older adult inpatients with chronic mental illness. *Journal of Clinical Geropsychology*, *6*(1), 63–72. http://doi.org/10.1023/A:1009528307936

Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI)*. Odessa, FL: Psychological Assessment Resources. Retrieved from http://books.google.co.in/books/about/Revised_NEO_Personality_Inventory_NEO

_PI.html?id=mp3zNwAACAAJ&pgis=1

Cotton, S. M., Gleeson, J. F. M., Alvarez-Jimenez, M., & McGorry, P. D. (2010). Quality of life in patients who have remitted from their first episode of psychosis. *Schizophrenia Research*, *121*(1–3), 259–65. http://doi.org/10.1016/j.schres.2010.05.027

Couture, S., Lecomte, T., & Leclerc, C. (2007). Personality characteristics and attachment in first episode psychosis: impact on social functioning. *The Journal of Nervous and Mental Disease*, *195*(8), 631–9. http://doi.org/10.1097/NMD.0b013e31811f4021

Craddock, N., & Owen, M. J. (2005). The beginning of the end for the Kraepelinian dichotomy. *The British Journal of Psychiatry*, *186*(5), 364–366. http://doi.org/10.1192/bjp.186.5.364

Craig, R. (2005). *New Directions in interpreting the Millon Clinical Multiaxial Inventory -III*. New York: Jonh Wiley.

Cuesta, M. J., Gil, P., Artamendi, M., Serrano, J. F., & Peralta, V. (2002). Premorbid personality and psychopathological dimensions in first-episode psychosis. *Schizophrenia Research*, *58*(2–3), 273–80. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12409168

Cuesta, M. J., Ugarte, M. D., Goicoa, T., Eraso, S., & Peralta, V. (2007). A taxometric analysis of schizophrenia symptoms. *Psychiatry Research*, *150*(3), 245–53. http://doi.org/10.1016/j.psychres.2006.01.019

Cullberg, J. (2003). Stressful life events preceding the first onset of psychosis. An explorative study. *Nordic Journal of Psychiatry*, *57*(3), 209–214. http://doi.org/10.1080/08039480310001373

Dalkin, T., Murphy, P., Glazebrook, C., Medley, I., & Harrison, G. (1994). Premorbid personality in first-onset psychosis. *The British Journal of Psychiatry : The Journal of Mental Science*, *164*(2), 202–7. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8173823

Demjaha, A., Morgan, K., Morgan, C., Landau, S., Dean, K., Reichenberg, A., … Dazzan, P. (2009). Combining dimensional and categorical representation of psychosis: the way forward for DSM-V and ICD-11? *Psychological Medicine*, *39*(12), 1943. http://doi.org/10.1017/S0033291709990651

Dinzeo, T., Cohen, A. S., Nienow, T. M., & Docherty, N. M. (2004). Stress and arousability in schizophrenia. *Schizophrenia Research*, *71*(1), 127–135. http://doi.org/10.1016/j.schres.2004.01.008

Dinzeo, T. J., & Docherty, N. M. (2007). Normal personality characteristics in schizophrenia: a review of the literature involving the FFM. *The Journal of*

Nervous and Mental Disease, *195*(5), 421–9. http://doi.org/10.1097/01.nmd.0000253795.69089.ec

Educación, I. C. de C. de la, & Seisdedos (TEA), N. (2011). *PPG-IPG. Perfil e Inventario de Personalidad*. Madrid: TEA Ediciones.

Eklund, M., Bäckström, M., & Hansson, L. (2003). Personality and self-variables: important determinants of subjective quality of life in schizophrenia out-patients. *Acta Psychiatrica Scandinavica*, *108*(2), 134–43. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12823170

Emsley, R. A. (1999). Risperidone in the treatment of first-episode psychotic patients: a double-blind multicenter study. Risperidone Working Group. *Schizophrenia Bulletin*, *25*(4), 721–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10667742

Emsley, R., Rabinowitz, J., & Torreman, M. (2003). The factor structure for the Positive and Negative Syndrome Scale (PANSS) in recent-onset psychosis. *Schizophrenia Research*, *61*(1), 47–57. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12648735

Endicott, J., Spitzer, R. L., Fleiss, J. L., & Cohen, J. (1976). The global assessment scale. A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry*, *33*(6), 766–71. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/938196

Eysenck, H., & Eysenck, S. (1975). *Manual of the Eysenck Personality Questionnaire*. London: Hodder and StoughtoN.

Eysenck, H. J. (1944). Types of Personality: A Factorial Study of Seven Hundred Neurotics. *The British Journal of Psychiatry*, *90*(381). Retrieved from http://bjp.rcpsych.org/content/90/381/851

Eysenck, S. (1965). *JEPI Manual*. London: University of London Press.

Eysenck, S. B. G., Eysenck, H. J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Person. Individ. Difl*, *6*(1), 21–29. Retrieved from http://www.pbarrett.net/publications/EPQR_1985_paper.pdf

First, M. B. (2016). *SCID-5-CV : structured clinical interview for DSM-5 disorders, clinician version*. American Psychiatric Association. Retrieved from https://www.appi.org/structured_clinical_interview_for_dsm-5_disorders-clinician_version_scid-5-cv

First, M., Spitzer, R., Gibbon, M., & Williams, J. (2002). Structured clinical interview for DSM-IV-TR axis I disorders, research version, patient edition. Retrieved from https://scholar.google.com/scholar?q=Structured+Clinical+Interview+for+DSM-IV-TR+Axis+I+Disorders,+Research+Version,+Patient+Edition.+(SCID-I/P)#0

Fogelson, D. L., Nuechterlein, K. H., Asarnow, R. A., Payne, D. L., Subotnik, K. L., Jacobson, K. C., … Kendler, K. S. (2007). Avoidant personality disorder is a separable schizophrenia-spectrum personality disorder even when controlling for the presence of paranoid and schizotypal personality disorders The UCLA family study. *Schizophrenia Research*, *91*(1–3), 192–9. http://doi.org/10.1016/j.schres.2006.12.023

Fok, M. L.-Y., Stewart, R., Hayes, R. D., & Moran, P. (2014). The impact of co-morbid personality disorder on use of psychiatric services and involuntary hospitalization in people with severe mental illness. *Social Psychiatry and Psychiatric Epidemiology*. http://doi.org/10.1007/s00127-014-0874-4

Francey, S. M., Jovev, M., Phassouliotis, C., Cotton, S. M., & Chanen, A. M. (2017). Does co-occurring borderline personality disorder influence acute phase treatment for first-episode psychosis? *Early Intervention in Psychiatry*. http://doi.org/10.1111/eip.12435

Francis, L. J., Brown, L. B., & Philipchalk, R. (1992). The development of an abbreviated form of the revised Eysenck Personality Questionnaire (EPQR-A): Its use among students in england. *Person. Indioid. 01%*, *13*(4). Retrieved from http://www.psychwiki.com/dms/other/labgroup/Measu235sdgse5234234resWeek2/Maria2/francis1992.pdf

Fresán, A., León-Ortiz, P., Robles-García, R., Azcárraga, M., Guizar, D., Reyes-Madrigal, F., … de la Fuente-Sandoval, C. (2015). Personality features in ultra-high risk for psychosis: A comparative study with schizophrenia and control subjects using the Temperament and Character Inventory-Revised (TCI-R). *Journal of Psychiatric Research*, *61*, 168–173. http://doi.org/10.1016/j.jpsychires.2014.12.013

Fusar-Poli, P., Bonoldi, I., Yung, A. R., Borgwardt, S., Kempton, M. J., Valmaggia, L., … McGuire, P. (2012). Predicting Psychosis: meta-analysis of transition outcomes in individuals at high clinical risk. *Archives of General Psychiatry*, *69*(3), 220. http://doi.org/10.1001/archgenpsychiatry.2011.1472

Fusar-Poli, P., Borgwardt, S., Bechdolf, A., Addington, J., Riecher-Rössler, A., Schultze-Lutter, F., … Fusar-Poli, P., B. S. B. A. A. (2013). The Psychosis High-Risk State: A Comprehensive State-of-the-Art Review. *JAMA Psychiatry*, *70*(1), 107–20. http://doi.org/10.1001/jamapsychiatry.2013.269.The

Galletly, C., Castle, D., Dark, F., Humberstone, V., Jablensky, A., Killackey, E., … Tran, N. (2016). *Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the management of schizophrenia and related disorders*. *Australian & New Zealand Journal of Psychiatry* (Vol. 50). http://doi.org/10.1177/0004867416641195

Gejman, P. V, Sanders, A. R., & Duan, J. (2010). The role of genetics in the etiology of

schizophrenia. *The Psychiatric Clinics of North America*, *33*(1), 35–66. http://doi.org/10.1016/j.psc.2009.12.003

Gispen-de Wied, C. C., & Jansen, L. M. C. (2002). The stress-vulnerability hypothesis in psychotic disorders: focus on the stress response systems. *Current Psychiatry Reports*, *4*(3), 166–170. http://doi.org/10.1007/s11920-002-0022-9

Glatt, S. J., Stone, W. S., Faraone, S. V, Seidman, L. J., & Tsuang, M. T. (2006). Psychopathology, personality traits and social development of young first-degree relatives of patients with schizophrenia. *The British Journal of Psychiatry : The Journal of Mental Science*, *189*, 337–45. http://doi.org/10.1192/bjp.bp.105.016998

Gleeson, J. F., Rawlings, D., Jackson, H. J., & McGorry, P. D. (2005). Agreeableness and neuroticism as predictors of relapse after first-episode psychosis: a prospective follow-up study. *The Journal of Nervous and Mental Disease*, *193*(3), 160–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15729105

Gordon, L. (1993). *Gordon Personal Profrile-Inventoy manual*. San Antonio, TX: Psychological Corporation.

Gough, H. (1987). *California Psychological Inventory Administrator's Guide*. Palo Alto, CA: Consulting Psychologists Press, Inc.

Green, A. I., Canuso, C. M., Brenner, M. J., & Wojcik, J. D. (2003). Detection and management of comorbidity in patients with schizophrenia. *The Psychiatric Clinics of North America*, *26*(1), 115–39. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12683263

Gross, G., Huber, G., Klosterkötter, J., & Linz, M. (1987). *BSABS. Bonn Scale for the Assessment of Basic Symptoms*. New York: Springer.

Guillem, F., Bicu, M., Semkovska, M., & Debruille, J. B. (2002). The dimensional symptom structure of schizophrenia and its association with temperament and character. *Schizophrenia Research*, *56*(1–2), 137–47. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12084428

Gunderson, J. G., Daversa, M. T., Grilo, C. M., McGlashan, T. H., Zanarini, M. C., Shea, M. T., … Stout, R. L. (2006). Predictors of 2-Year Outcome for Patients With Borderline Personality Disorder. *American Journal of Psychiatry*, *163*(5), 822–826. http://doi.org/10.1176/ajp.2006.163.5.822

Gurrera, R. J., Nestor, P. G., & O'Donnell, B. F. (2000). Personality traits in schizophrenia: comparison with a community sample. *The Journal of Nervous and Mental Disease*, *188*(1), 31–5. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10665458

Häfner, H., Riecher-Rössler, A., Hambrecht, M., Maurer, K., Meissner, S., Schmidtke, A., … van der Heiden, W. (1992). IRAOS: an instrument for the assessment of

onset and early course of schizophrenia. *Schizophrenia Research*, *6*(3), 209–23. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1571314

Hathaway, S., & McKinley, J. (1942). *Manual for the Minnesota Multiphasic Personality Inventory*. Minneapolis: University of Minnesota Pres.

Hogg, B., Jackson, H. J., Rudd, R. P., & Edwards, J. (1990). Diagnosing personality disorders in recent-onset schizophrenia. *The Journal of Nervous and Mental Disease*, *178*(3), 194–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2307972

Hor, K., & Taylor, M. (2010). Suicide and schizophrenia: a systematic review of rates and risk factors. *Journal of Psychopharmacology (Oxford, England)*, *24*(4 Suppl), 81–90. http://doi.org/10.1177/1359786810385490

Hori, H., Noguchi, H., Hashimoto, R., Nakabayashi, T., Saitoh, O., Murray, R. M., … Kunugi, H. (2008). Personality in schizophrenia assessed with the Temperament and Character Inventory (TCI). *Psychiatry Research*, *160*(2), 175–83. http://doi.org/10.1016/j.psychres.2007.05.015

Huang, Y., Kotov, R., de Girolamo, G., Preti, A., Angermeyer, M., Benjet, C., … Kessler, R. C. (2009). DSM-IV personality disorders in the WHO World Mental Health Surveys. *The British Journal of Psychiatry : The Journal of Mental Science*, *195*(1), 46–53. http://doi.org/10.1192/bjp.bp.108.058552

Huber, G., & Gross, G. (1989). The concept of basic symptoms in schizophrenic and schizoaffective psychoses. *Recenti Progressi in Medicina*, *80*(12), 646–52. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2697899

Hutton, P., Bowe, S., Parker, S., & Ford, S. (2011). Prevalence of suicide risk factors in people at ultra-high risk of developing psychosis: a service audit. *Early Intervention in Psychiatry*, *5*(4), 375–80. http://doi.org/10.1111/j.1751-7893.2011.00302.x

Jackson, H. J., & Burgess, P. M. (2000). Personality disorders in the community: a report from the Australian National Survey of Mental Health and Wellbeing. *Social Psychiatry and Psychiatric Epidemiology*, *35*(12), 531–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11213842

Jackson, H. J., McGorry, P. D., & McKenzie, D. (1994). The reliability of DSM-III prodromal symptoms in first-episode psychotic patients. *Acta Psychiatrica Scandinavica*, *90*(5), 375–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7872043

Jane, J. S., Oltmanns, T. F., South, S. C., & Turkheimer, E. (2007). Gender bias in diagnostic criteria for personality disorders: an item response theory analysis. *Journal of Abnormal Psychology*, *116*(1), 166–75. http://doi.org/10.1037/0021-843X.116.1.166

Jerrell, J. M., & Hrisko, S. (2013). Utility of Two PANSS 5-Factor Models for Assessing Psychosocial Outcomes in Clinical Programs for Persons with Schizophrenia. *Schizophrenia Research and Treatment*, *2013*, 705631. http://doi.org/10.1155/2013/705631

Johns, L. C., & van Os, J. (2001). The continuity of psychotic experiences in the general population. *Clinical Psychology Review*, *21*(8), 1125–41. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11702510

Kay SR, Opler LA, F. A. (1986). The positive and negative symptom scale (PANSS). Rating manual. *Social and Behavioural Sciences Documents*, *17*, 28–29.

Kelleher, I., Murtagh, A., Molloy, C., Roddy, S., Clarke, M. C., Harley, M., & Cannon, M. (2012). Identification and Characterization of Prodromal Risk Syndromes in Young Adolescents in the Community: A Population-Based Clinical Interview Study. *Schizophrenia Bulletin*, *38*(2), 239–246. http://doi.org/10.1093/schbul/sbr164

Kendler, K. S., Gruenberg, A. M., & Kinney, D. K. (1994). Independent diagnoses of adoptees and relatives as defined by DSM-III in the provincial and national samples of the Danish Adoption Study of Schizophrenia. *Archives of General Psychiatry*, *51*(6), 456–68. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8192548

Kendler, K. S., McGuire, M., Gruenberg, A. M., O'Hare, A., Spellman, M., & Walsh, D. (1993). The Roscommon Family Study. I. Methods, diagnosis of probands, and risk of schizophrenia in relatives. *Archives of General Psychiatry*, *50*(7), 527–40. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8317947

Kenny, D. A., & Campbell, D. T. (1989). On the measurement of stability in over-time data. *Journal of Personality*, *57*(2), 445–81. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2769563

Kentros, M., Smith, T. E., Hull, J., McKee, M., Terkelsen, K., & Capalbo, C. (1997). Stability of personality traits in schizophrenia and schizoaffective disorder: a pilot project. *The Journal of Nervous and Mental Disease*, *185*(9), 549–55. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9307616

Keshavan, M. S., & Amirsadri, A. (2007). Early intervention in schizophrenia: current and future perspectives. *Current Psychiatry Reports*, *9*(4), 325–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/17880865

Keshavan, M. S., Duggal, H. S., Veeragandham, G., McLaughlin, N. M., Montrose, D. M., Haas, G. L., & Schooler, N. R. (2005). Personality dimensions in first-episode psychoses. *The American Journal of Psychiatry*, *162*(1), 102–9. http://doi.org/10.1176/appi.ajp.162.1.102

Kraepelin, E. (1913). *Psychiatrie* (8th ed.). Leipzig: Barth.

Kraepelin, E. (1971). *Dementia Praecox and Paraphrenia*. New York: Krieger Publishing Company.

Krug, S. (1980). *Clinical Analysis Questionnaire, Manual*. Champaing, IL: Institute for Personality and Ability Testing.

Lambert, M., & Naber, D. (2004). Current issues in schizophrenia: overview of patient acceptability, functioning capacity and quality of life. *CNS Drugs*, *18 Suppl 2*, 5-17–3. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15461312

Laursen, T. M. (2011). Life expectancy among persons with schizophrenia or bipolar affective disorder. *Schizophrenia Research*, *131*(1–3), 101–104. http://doi.org/10.1016/j.schres.2011.06.008

Lecomte, T., Gumley, A., & Lysaker, P. (2012). Introduction to special issue on psychosis and personality disorder. *Psychosis: Psychological, Social and Integrative Approaches*, *4*(1), 1–5. http://doi.org/10.1080/17522439.2012.653544

Leung, A., & Chue, P. (2000). Sex differences in schizophrenia, a review of the literature. *Acta Psychiatrica Scandinavica. Supplementum*, *401*, 3–38. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10887978

Livesley, W. J. (1986). Trait and behavioral prototypes of personality disorder. *American Journal of Psychiatry*, *143*(6), 728–732. http://doi.org/10.1176/ajp.143.6.728

Livesley, W. J. (1998). Suggestions for a Framework for an Empirically Based Classification of Personality Disorder. *The Canadian Journal of Psychiatry*, *43*(2), 137–147. http://doi.org/10.1177/070674379804300202

Livesley, W. J., & Jang, K. L. (2005). Differentiating normal, abnormal, and disordered personality. *European Journal of Personality*, *19*(4), 257–268. http://doi.org/10.1002/per.559

Lönnqvist, J.-E., Verkasalo, M., Haukka, J., Nyman, K., Tiihonen, J., Laaksonen, I., … Henriksson, M. (2009). Premorbid personality factors in schizophrenia and bipolar disorder: Results from a large cohort study of male conscripts. *Journal of Abnormal Psychology*, *118*(2), 418–423. http://doi.org/10.1037/a0015127

López Pantoja, J. L., Cabranes Díaz, J. A., Sánchez Quintero, S., Velao, M., Sanz, M., Torres Pardo, B., … Barabash, A. (2012). Perfiles de personalidad en sujetos obesos y control medidos con cinco escalas estandarizadas de personalidad.

Loranger, A., Janca, A., & Sartorius, N. (1997). *Assessment and Diagnosis of Personality Disorders: The ICD-10 International Personality Disorder Examination*. Cambridge: Cambridge University Press; 1 edition. Retrieved from http://www.amazon.com/Assessment-Diagnosis-Personality-Disorders-International/dp/0521580439

Loranger, A. W., Janca, A., & Sarotius, N. (2007). *Assessment and diagnosis of personality disorders: The ICD-10 international personality disorder examination (IPDE)*. *Journal of Chemical Information and Modeling* (Vol. 53). http://doi.org/10.1017/CBO9781107415324.004

Lucas-Carrasco, R. (1998). *Versión Española del WHOQOL*. Madrid: Editorial Ergón.

Lucas-Carrasco, R. (2012). The WHO quality of life (WHOQOL) questionnaire: Spanish development and validation studies. *Quality of Life Research : An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, *21*(1), 161–5. http://doi.org/10.1007/s11136-011-9926-3

Lyons, M. J., Huppert, J., Toomey, R., Harley, R., Goldberg, J., Eisen, S., … Tsuang, M. T. (2000). Lifetime prevalence of mood and anxiety disorders in twin pairs discordant for schizophrenia. *Twin Research : The Official Journal of the International Society for Twin Studies*, *3*(1), 28–32. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10808238

Lysaker, P. (2004). Neurocognitive deficits and history of childhood abuse in schizophrenia spectrum disorders: associations with Cluster B personality traits. *Schizophrenia Research*, *68*(1), 87–94. http://doi.org/10.1016/S0920-9964(03)00195-6

Lysaker, P. H., Bell, M. D., Kaplan, E., Greig, T. C., & Bryson, G. J. (1999). Personality and psychopathology in schizophrenia: the association between personality traits and symptoms. *Psychiatry*, *62*(1), 36–48. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10224622

Lysaker, P., Wilt, M., Plascak-Hallberg, C., Brenner, C., & Clements, C. (2003). Personality dimensions in schizophrenia: associations with symptoms and coping domains. *The Journal of Nervous and Mental Disease*, *191*(2), 80–86. http://doi.org/10.1097/01.NMD.0000050936.81128.5B

Manchikanti, L., Fellows, B., Pampati, V., Beyer, C., Damron, K., & Barnhill, R. C. (2002). Comparison of psychological status of chronic pain patients and the general population. *Pain Physician*, *5*(1), 40–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16896357

Marshall, M., Lewis, S., Lockwood, A., Drake, R., Jones, P., & Croudace, T. (2005). Association Between Duration of Untreated Psychosis and Outcome in Cohorts of First-Episode Patients. *Archives of General Psychiatry*, *62*(9), 975. http://doi.org/10.1001/archpsyc.62.9.975

Maurer, K., & Häfner, H. (1995). Methodological aspects of onset assessment in schizophrenia. *Schizophrenia Research*, *15*(3), 265–76. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7632624

Maurer, K., Horrmann, F., & Trendler, G. (2006). Identification of psychosis risk by the

Early Recognition Inventory (ERIraos) – description of the schedules and preliminary results on reliability and validity of the checklist. *Nervenheilkunde*, *25*, 11–16.

Mayer-Gross, W. (1932). *Die Klinik der Schizophrenie. Bunke*. Berlin: Springer.

Mayoral, M., Zabala, A., Robles, O., Bombín, I., Andrés, P., Parellada, M., … Arango, C. (2008). Neuropsychological functioning in adolescents with first episode psychosis: a two-year follow-up study. *European Psychiatry : The Journal of the Association of European Psychiatrists*, *23*(5), 375–83. http://doi.org/10.1016/j.eurpsy.2008.01.1420

McCrae, R., & Costa, P. (1984). *Emerging lives, enduring dispositions : personality in adulthood*. Little, Brown and Co.

McCrae, R. R., & Costa, P. T. (1983). Joint factors in self-reports and ratings: Neuroticism, extraversion and openness to experience. *Personality and Individual Differences*, *4*(3), 245–255. http://doi.org/10.1016/0191-8869(83)90146-0

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, *60*(2), 175–215. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1635039

McGorry, P. D., Nelson, B., Goldstone, S., & Yung, A. R. (2010). Clinical Staging: A Heuristic and Practical Strategy for New Research and Better Health and Social Outcomes for Psychotic and Related Mood Disorders. *The Canadian Journal of Psychiatry*, *55*(8), 486–497. http://doi.org/10.1177/070674371005500803

McGorry, P. D., Singh, B. S., Copolov, D. L., Kaplan, I., Dossetor, C. R., & van Riel, R. J. (1990). Royal Park Multidiagnostic Instrument for Psychosis: Part II. Development, reliability, and validity. *Schizophrenia Bulletin*, *16*(3), 517–36. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2287937

McGorry, P., & Nelson, B. (2016). Why We Need a Transdiagnostic Staging Approach to Emerging Psychopathology, Early Diagnosis, and Treatment. *JAMA Psychiatry*, *73*(3), 191. http://doi.org/10.1001/jamapsychiatry.2015.2868

McMillan, K. A., Enns, M. W., Cox, B. J., & Sareen, J. (2009). Comorbidity of Axis I and II mental disorders with schizophrenia and psychotic disorders: findings from the National Epidemiologic Survey on Alcohol and Related Conditions. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, *54*(7), 477–86. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19660170

Miller, T. J., McGlashan, T. H., Rosen, J. L., Cadenhead, K., Cannon, T., Ventura, J., … Woods, S. W. (2003). Prodromal assessment with the structured interview for prodromal syndromes and the scale of prodromal symptoms: predictive validity, interrater reliability, and training to reliability. *Schizophrenia Bulletin*, *29*(4), 703–15. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14989408

Miller, T. J., Mcglashan, T. H., Woods, S. W., Stein, K., Driesen, N., Corcoran, C. M., … Davidson, L. (1999). Symptom assessment in schizophrenic prodromal states. *Psychiatric Quarterly*, *70*(4). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.469.3564&rep=rep1&type=pdf

Millon, T. (1969). *Modern psychopathology : a biosocial approach to maladaptive learning and functioning*. Saunders.

Millon, T. (1976). *Psicopatología Moderna. Enfoque biosocial de los aprendizajes erróneos y de los disfuncionalismos.* Barcelona: Salvat.

Millon, T. (1983). *Millon Clinical Muliaxial Inventory Manual*. Minneapolis, MN: National Computer Systems.

Millon, T. (1990). *Toward a New Personology: An Evolutionary Model [Hardcover]*. New York: Wiley. Retrieved from http://www.amazon.com/Toward-New-Personology-Evolutionary-Model/dp/0471515736

Millon, T. (1993). *Manual of Millon Adolescent Clinical Inventory*. Minneapolis, MN: National Computer Systems.

Millon, T. (1995). *Disorders of Personality: DSM-IV and Beyond* (2nd ed.). New York: John Wiley & Sons.

Millon, T. (2004). *Manual of Millon index of personality styles revised MIPS revised*. Minneapolis, MN: National Computer Systems.

Millon, T., Davis, R. ., & Millon, C. (1997). *MCMI-III manual*. Minneapolis, MN: National Computer Systems.

Millon, T., GREEN, C., & MEAGHER, R. (1982). *Millon Adolescent Personality Inventory Manual (M.A.P.I.)*. Minneapolis, MN: National Computer Systems.

Millon, T., Grossman, S., & Millon, C. (2015). *MCMI-IV: Millon Clinical Multiaxial Inventory Manual*. Bloomington, MN: NCS Pearson, Inc.

Minas, I. H., Stuart, G. W., Klimidis, S., Jackson, H. J., Singh, B. S., & Copolov, D. L. (1992). Positive and negative symptoms in the psychoses: multidimensional scaling of SAPS and SANS items. *Schizophrenia Research*, *8*(2), 143–56. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1457393

Miralles, C., Alonso, Y., Verge, B., Setó, S., Gaviria, A. M., Moreno, L., … Martorell, L. (2014). Personality dimensions of schizophrenia patients compared to control subjects by gender and the relationship with illness severity. *BMC Psychiatry*, *14*, 151. http://doi.org/10.1186/1471-244X-14-151

Moffitt, T. E., Harrington, H., Caspi, A., Kim-Cohen, J., Goldberg, D., Gregory, A. M., & Poulton, R. (2007). Depression and Generalized Anxiety Disorder. Cumulative

and Sequential Comorbidity in a Birth Cohort Followed Prospectively to Age 32 Years. *Archives of General Psychiatry*, *64*(6), 651. http://doi.org/10.1001/archpsyc.64.6.651

Moran, P., & Hodgins, S. (2004). The correlates of comorbid antisocial personality disorder in schizophrenia. *Schizophrenia Bulletin*, *30*(4), 791–802. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15954191

Müller, M. J. (2007). Gender-specific associations of depression with positive and negative symptoms in acute schizophrenia. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, *31*(5), 1095–100. http://doi.org/10.1016/j.pnpbp.2007.03.014

Murray, G. K., Cheng, F., Clark, L., Barnett, J. H., Blackwell, A. D., Fletcher, P. C., … Jones, P. B. (2008). Reinforcement and reversal learning in first-episode psychosis. *Schizophrenia Bulletin*, *34*(5), 848–55. http://doi.org/10.1093/schbul/sbn078

Newton-Howes, G., & Marsh, R. (2013). Personality dysfunction and social functioning in schizophrenia. *Personality and Mental Health*, *7*(2), 114–21. http://doi.org/10.1002/pmh.1206

Newton-Howes, G., Tyrer, P., Anagnostakis, K., Cooper, S., Bowden-Jones, O., & Weaver, T. (2010). The prevalence of personality disorder, its comorbidity with mental state disorders, and its clinical significance in community mental health teams. *Social Psychiatry and Psychiatric Epidemiology*, *45*(4), 453–60. http://doi.org/10.1007/s00127-009-0084-7

Newton-Howes, G., Tyrer, P., & Johnson, T. (2006). Personality disorder and the outcome of depression: meta-analysis of published studies. *The British Journal of Psychiatry : The Journal of Mental Science*, *188*(1), 13–20. http://doi.org/10.1192/bjp.188.1.13

Nuechterlein, K., & Dawson, M. (1982). Vulnerability / Stress Model of Schizophrenic Episodes. *Schizophrenia Bulletin*, *10*(2), 300–312. http://doi.org/10.1093/schbul/10.2.300

Ohi, K., Hashimoto, R., Yasuda, Y., Fukumoto, M., Yamamori, H., Iwase, M., … Takeda, M. (2012). Personality traits and schizophrenia: evidence from a case-control study and meta-analysis. *Psychiatry Research*, *198*(1), 7–11. http://doi.org/10.1016/j.psychres.2011.12.018

Ohi, K., Shimada, T., Nitta, Y., Kihara, H., Okubo, H., Uehara, T., & Kawasaki, Y. (2016). The Five-Factor Model personality traits in schizophrenia: A meta-analysis. *Psychiatry Research*, *240*, 34–41. http://doi.org/10.1016/j.psychres.2016.04.004

Olsen, K. A., & Rosenbaum, B. (2006). Prospective investigations of the prodromal state of schizophrenia: assessment instruments. *Acta Psychiatrica Scandinavica*,

113(4), 273–282. http://doi.org/10.1111/j.1600-0447.2005.00698.x

Overall, J. E., & Gorham, D. R. (1962). The Brief Psychiatric Rating Scale. *Psychological Reports*, *10*(3), 799–812. http://doi.org/10.2466/pr0.1962.10.3.799

Pallanti, S., Quercioli, L., & Hollander, E. (2004). Social anxiety in outpatients with schizophrenia: a relevant cause of disability. *The American Journal of Psychiatry*, *161*(1), 53–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14702250

Paulhus, D. L., & Vazire, S. (2010). The Self-Report Method. In R. . Robins, R. . Fraley, & kRUEGER R.F (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). New York: Guilford. Retrieved from http://neuron4.psych.ubc.ca/~dpaulhus/research/SDR/downloads/CHAPTERS/2008 Handbook Research Methods/paulhus-vazire 07 chap.pdf

Peled, O., Bar-Kalifa, E., & Rafaeli, E. (2017). Stability or instability in avoidant personality disorder:Mode fluctuations within schema therapy sessions. *Journal of Behavior Therapy and Experimental Psychiatry*, *57*, 126–134. http://doi.org/10.1016/j.jbtep.2017.05.004

Peralta Martín, V., & Cuesta Zorita, M. J. (1994). [Validation of positive and negative symptom scale (PANSS) in a sample of Spanish schizophrenic patients]. *Actas Luso-Españolas de Neurología, Psiquiatría Y Ciencias Afines*, *22*(4), 171–7. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7810373

Perkins, D. O., Gu, H., Boteva, K., & Lieberman, J. A. (2005). Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: a critical review and meta-analysis. *The American Journal of Psychiatry*, *162*(10), 1785–804. http://doi.org/10.1176/appi.ajp.162.10.1785

Perkins, D. O., Leserman, J., Jarskog, L. F., Graham, K., Kazmer, J., & Lieberman, J. A. (2000). Characterizing and dating the onset of symptoms in psychotic illness: the Symptom Onset in Schizophrenia (SOS) inventory. *Schizophrenia Research*, *44*(1), 1–10. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10867307

Pfohl, B., Blum, N. S., & Zimmerman, M. (1997). *Structured interview for DSM-IV personality : SIDP-IV*. American Psychiatric Press. Retrieved from https://books.google.es/books/about/Structured_Interview_for_DSM_IV_Personal.html?id=J17zkm2RH6MC&redir_esc=y

Pope, M. A., Joober, R., & Malla, A. K. (2013). Diagnostic stability of first-episode psychotic disorders and persistence of comorbid psychiatric disorders over 1 year. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, *58*(10), 588–94. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/24165106

Priebe, S., McCabe, R., Junghan, U., Kallert, T., Ruggeri, M., Slade, M., & Reininghaus, U. (2011). Association between symptoms and quality of life in patients with schizophrenia: A pooled analysis of changes over time.

Schizophrenia Research, *133*(1–3), 17–21. http://doi.org/10.1016/j.schres.2011.09.021

Prosser, J. M., Eisenberg, D., Davey, E. E., Steinfeld, M., Cohen, L. J., London, E. D., & Galynker, I. I. (2008). Character pathology and neuropsychological test performance in remitted opiate dependence. *Substance Abuse Treatment, Prevention, and Policy*, *3*, 23. http://doi.org/10.1186/1747-597X-3-23

Reddy, M. S. (2014). Attenuated psychosis syndrome. *Indian Journal of Psychological Medicine*, *36*(1), 1–3. http://doi.org/10.4103/0253-7176.127239

Reich, J. H., & Green, A. I. (1991). Effect of personality disorders on outcome of treatment. *The Journal of Nervous and Mental Disease*, *179*(2), 74–82. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1990074

Ridgewell, C., Blackford, J. U., McHugo, M., & Heckers, S. (2017). Personality traits predicting quality of life and overall functioning in schizophrenia. *Schizophrenia Research*, *182*, 19–23. http://doi.org/10.1016/j.schres.2016.10.007

Robins, L. N., Wing, J., Wittchen, H. U., Helzer, J. E., Babor, T. F., Burke, J., … Regier, D. A. (1988). The Composite International Diagnostic Interview. An epidemiologic Instrument suitable for use in conjunction with different diagnostic systems and in different cultures. *Archives of General Psychiatry*, *45*(12), 1069–77. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2848472

Rosenman, S., Korten, A., Medway, J., & Evans, M. (2003). Dimensional vs. categorical diagnosis in psychosis. *Acta Psychiatrica Scandinavica*, *107*(5), 378–84. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12752034

Ryan, J., Graham, A., Nelson, B., & Yung, A. (2015). Borderline personality pathology in young people at ultra high risk of developing a psychotic disorder. *Early Intervention in Psychiatry*, (June 2010), n/a-n/a. http://doi.org/10.1111/eip.12236

Saha, S., Chant, D., & McGrath, J. (2007). A Systematic Review of Mortality in Schizophrenia. *Archives of General Psychiatry*, *64*(10), 1123. http://doi.org/10.1001/archpsyc.64.10.1123

Sansone, R. A., & Sansone, L. A. (2010). Personality Disorders as Risk Factors for Eating Disorders. *Nutrition in Clinical Practice*, *25*(2), 116–121. http://doi.org/10.1177/0884533609357563

Sansone, R. A., & Sansone, L. A. (2011). Personality disorders: a nation-based perspective on prevalence. *Innovations in Clinical Neuroscience*, *8*(4), 13–8. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3105841&tool=pmcentrez&rendertype=abstract

Sanz, J., & García-Vera P. (2009). Nuevos Baremos para la Adaptación Española del

Inventario de Personalidad NEO Revisado (NEO PI-R): Fiabilidad y Datos Normativos en Voluntarios de la Población General. *Clínica Y Salud*, *20*(2), 131–144. Retrieved from http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1130-52742009000200003

Schmeck, K., Schlüter-Müller, S., Foelsch, P. A., & Doering, S. (2013). The role of identity in the DSM-5 classification of personality disorders. *Child and Adolescent Psychiatry and Mental Health*, *7*(1), 27. http://doi.org/10.1186/1753-2000-7-27

Schneider, K. (1950). *Psychopathic Personalities.* London: Cassell.

Schuerger, J. (2001). *16PF® Adolescent Personality Questionnaire: Manual*. Champaing, IL: Institute for Personality and Ability Testing, Inc.

Schultz, D. P., & Schultz, S. E. (2002). *Teorías de la personalidad*. Thomson. Retrieved from https://www.casadellibro.com/libro-teorias-de-la-personalidad-7-ed/9788497321754/866842

Schultze-Lutter, F. (2009). Subjective symptoms of schizophrenia in research and the clinic: the basic symptom concept. *Schizophrenia Bulletin*, *35*(1), 5–8. http://doi.org/10.1093/schbul/sbn139

Schultze-Lutter, F., Addington, J., & Ruhrmann, S. (2007). *Schizophrenia Proneness Instrument, Adult version (SPI-A)*. Rome: Fioriti.

Schultze-Lutter, F., Klosterkötter, J., Michel, C., Winkler, K., & Ruhrmann, S. (2012). Personality disorders and accentuations in at-risk persons with and without conversion to first-episode psychosis. *Early Intervention in Psychiatry*, *6*(4), 389–98. http://doi.org/10.1111/j.1751-7893.2011.00324.x

Schultze-Lutter, F., Klosterkotter, J., Nikolaides, A., & Ruhrmann, S. (2015). Personality dimensions in persons symptomatically at risk of psychosis: Pronounced but lacking a characteristic profile. *Early Intervention in Psychiatry*, *9*(3), 242–247. http://doi.org/10.1111/eip.12147

Schultze-Lutter, F., & Koch, E. (2010). *Schizophrenia Proneness Instrument, Child & Youth version (SPI-CY)*. Rome: Fioriti.

Seisdedos, N. (1986). *CAQ. Cuestionario de análisis clínico. Manual.* Madrid: TEA Ediciones.

Seisdedos, N. (1992). *CPI : Inventario Psicológico de California : manual del usuario del programa de corrección y tratamiento*. Madrid: TEA Ediciones.

Seisdedos, N. (2011). *Manual del cuestionario factorial de la personalidad. 16PF-5*.

Shah, J. L., Tandon, N., & Keshavan, M. S. (2013). Psychosis prediction and clinical utility in familial high-risk studies: selective review, synthesis, and implications for

early detection and intervention. *Early Intervention in Psychiatry*, *7*(4), 345–60. http://doi.org/10.1111/eip.12054

Shapiro, D. I., Marenco, S., Spoor, E. H., Egan, M. F., Weinberger, D. R., & Gold, J. M. (2009). The Premorbid Adjustment Scale as a measure of developmental compromise in patients with schizophrenia and their healthy siblings. *Schizophrenia Research*, *112*(1–3), 136–42. http://doi.org/10.1016/j.schres.2009.04.007

Sheehan, D. V, Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., … Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *The Journal of Clinical Psychiatry*, 22-33-57. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9881538

Sim, K., Chua, T. H., Chan, Y. H., Mahendran, R., & Chong, S. A. (2006). Psychiatric comorbidity in first episode schizophrenia: a 2 year, longitudinal outcome study. *Journal of Psychiatric Research*, *40*(7), 656–63. http://doi.org/10.1016/j.jpsychires.2006.06.008

Sim, M., Kim, J. H., Yim, S. J., Cho, S.-J., & Kim, S. J. (2012). Increase in harm avoidance by genetic loading of schizophrenia. *Comprehensive Psychiatry*, *53*(4), 372–8. http://doi.org/10.1016/j.comppsych.2011.05.004

Simonsen, E., Haahr, U., Mortensen, E. L., Friis, S., Johannessen, J. O., Larsen, T. K., … Vaglum, P. (2008). Personality disorders in first-episode psychosis. *Personality and Mental Health*, *2*(4), 230–239. http://doi.org/10.1002/pmh.49

Skodol, A. W. E., Johnson, J. G., Cohen, P., Sneed, J. R., & Crawford, T. N. (2007). Personality disorder and impaired functioning from adolescence to adulthood. *The British Journal of Psychiatry : The Journal of Mental Science*, *190*, 415–20. http://doi.org/10.1192/bjp.bp.105.019364

Skokou, M., & Gourzis, P. (2014). Demographic features and premorbid personality disorder traits in relation to age of onset and sex in paranoid schizophrenia. *Psychiatry Research*, *215*(3), 554–9. http://doi.org/10.1016/j.psychres.2014.01.018

Song, Y. Y., Kang, J. I., Kim, S. J., Lee, M. K., Lee, E., & An, S. K. (2013). Temperament and character in individuals at ultra-high risk for psychosis and with first-episode schizophrenia: associations with psychopathology, psychosocial functioning, and aspects of psychological health. *Comprehensive Psychiatry*, *54*(8), 1161–8. http://doi.org/10.1016/j.comppsych.2013.05.015

Strack, S., & Lorr, M. (1994). *Differentiating normal and abnormal personality*. Springer Pub. Co. Retrieved from https://books.google.es/books/about/Differentiating_Normal_and_Abnormal_Pers.html?id=3OkMAQAAMAAJ&redir_esc=y

Strack, S., & Millon, T. (2007). Contributions to the dimensional assessment of personality disorders using Millon's model and the Millon Clinical Multiaxial Inventory (MCMI9-III). *Journal of Personality Assessment*, *89*(1), 56–69. http://doi.org/10.1080/00223890701357217

Strakowski, S. M., Tohen, M., Stoll, A. L., Faedda, G. L., Mayer, P. V, Kolbrener, M. L., & Goodwin, D. C. (1993). Comorbidity in psychosis at first hospitalization. *The American Journal of Psychiatry*, *150*(5), 752–7. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8480821

Sullivan, P. F., Kendler, K. S., & Neale, M. C. (2003). Schizophrenia as a Complex Trait. *Archives of General Psychiatry*, *60*(12), 1187. http://doi.org/10.1001/archpsyc.60.12.1187

Swadi, H., & Bobier, C. (2003). Substance use disorder comorbidity among inpatient youths with psychiatric disorder. *The Australian and New Zealand Journal of Psychiatry*, *37*(3), 294–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12780467

Tan, N., & van Os, J. (2014). [The schizophrenia spectrum and other psychotic disorders in the DSM-5]. *Tijdschrift Voor Psychiatrie*, *56*(3), 167–72. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/24643825

Targum, S. (1983). Neuroendocrine dysfunction in schizophreniform disorder: correlation with six-month clinical outcome. *American Journal of Psychiatry*, *140*(3), 309–313. http://doi.org/10.1176/ajp.140.3.309

Tellegen, A., Ben-Porath, Y., McNulty, J., Arbisi, P., Graham, J., & Kaemmer, B. (2003). *The MMPI-2 Restructured Clinical Scales: Development, validation, and interpretation*. Minneapolis: University of Minnesota Press.

The WHOQOL Group. (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychological Medicine*, *28*(3), 551–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9626712

Therien, P., Lavarenne, A., & Lecomte, T. (2014). The Treatment of Complex Dual Disorders: Clinicians' and Service Users' Perspectives. *Journal of Addiction Research and Therapy*, *s10*. http://doi.org/10.4172/2155-6105.S10-006

Thompson, A., Nelson, B., Bechdolf, A., Chanen, A. M., Domingues, I., Mcdougall, E., & Yung, A. R. (2012). Borderline Personality Features And Development Of Psychosis In An "ultra High Risk" (Uhr) Population: A Case Control Study. *Early Intervention in Psychiatry*, *6*(3), 247–255. http://doi.org/10.1111/j.1751-7893.2012.00365.x

Tienari, P., Wynne, L. C., Läksy, K., Moring, J., Nieminen, P., Sorri, A., … Wahlberg, K.-E. (2003). Genetic Boundaries of the Schizophrenia Spectrum: Evidence From the Finnish Adoptive Family Study of Schizophrenia. *American Journal of*

Psychiatry, *160*(9), 1587–1594. http://doi.org/10.1176/appi.ajp.160.9.1587

Tyrer, P. (2005). The problem of severity in the classification of personality disorder. *Journal of Personality Disorders*, *19*(3), 309–14. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16175739

Tyrer, P., Coombs, N., Ibrahimi, F., Mathilakath, A., Bajaj, P., Ranger, M., … Din, R. (2007). Critical developments in the assessment of personality disorder. *The British Journal of Psychiatry*, *190*(49). Retrieved from http://bjp.rcpsych.org/content/190/49/s51

Tyrer, P., & Seivewright, H. (2000). *Personality Disorders: Diagnosis, Management and Course*. London: Arnold.

van der Gaag, M., Hoffman, T., Remijsen, M., Hijman, R., de Haan, L., van Meijel, B., … Wiersma, D. (2006). The five-factor model of the Positive and Negative Syndrome Scale II: a ten-fold cross-validation of a revised model. *Schizophrenia Research*, *85*(1–3), 280–7. http://doi.org/10.1016/j.schres.2006.03.021

Vaskinn, A., Sundet, K., Simonsen, C., Hellvin, T., Melle, I., & Andreassen, O. a. (2011). Sex differences in neuropsychological performance and social functioning in schizophrenia and bipolar disorder. *Neuropsychology*, *25*(4), 499–510. http://doi.org/10.1037/a0022677

Vassos, E., Pedersen, C. B., Murray, R. M., Collier, D. A., & Lewis, C. M. (2012). Meta-Analysis of the Association of Urbanicity With Schizophrenia. *Schizophrenia Bulletin*, *38*(6), 1118–1123. http://doi.org/10.1093/schbul/sbs096

Vater, A., Ritter, K., Strunz, S., Ronningstam, E. F., Renneberg, B., & Roepke, S. (2014). Stability of narcissistic personality disorder: Tracking categorical and dimensional rating systems over a two-year period. *Personality Disorders: Theory, Research, and Treatment*, *5*(3), 305–313. http://doi.org/10.1037/per0000058

Velthorst, E., Nieman, D. H., Linszen, D., Becker, H., de Haan, L., Dingemans, P. M., … Ruhrmann, S. (2010). Disability in people clinically at high risk of psychosis. *The British Journal of Psychiatry*, *197*(4), 278–284. http://doi.org/10.1192/bjp.bp.109.075036

Ventura, J., Lukoff, D., Nuechterlein, K., Liberman, R., Green, M., & Shaner, A. (1993). Brief Psychiatric Rating Scale (BPRS) Expanded version (4.0) scales, anchor points and administration manual. *International Journal of Methods in Psychiatric.*, *3*, 227–224.

Ventura, J., Nuechterlein, K. H., Subotnik, K. L., Gutkind, D., & Gilbert, E. A. (2000). Symptom dimensions in recent-onset schizophrenia and mania: a principal components analysis of the 24-item Brief Psychiatric Rating Scale. *Psychiatry Research*, *97*(2–3), 129–35. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11166085

Verheul, R. (2005). Clinical utility of dimensional models for personality pathology. *Journal of Personality Disorders*, *19*(3), 283–302. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16175737

Walder, D. J., Seidman, L. J., Cullen, N., Su, J., Tsuang, M. T., & Goldstein, J. M. (2006). Sex differences in language dysfunction in schizophrenia. *American Journal of Psychiatry*, *163*(3), 470–477. http://doi.org/10.1176/appi.ajp.163.3.470

Weaver, T., Madden, P., Charles, V., Stimson, G., Renton, A., Tyrer, P., … Ford, C. (2003). Comorbidity of substance misuse and mental illness in community mental health and substance misuse services. *The British Journal of Psychiatry*, *183*(4), 304–313. http://doi.org/10.1192/bjp.183.4.304

Wechsler. (1997). *Wechsler Adult Intelligence Scale– Third Edition*. San Antonio: The Psychological Corporation.

Wei, Y., Zhang, T., Chow, A., Tang, Y., Xu, L., Dai, Y., … Wang, J. (2016). Co-morbidity of personality disorder in schizophrenia among psychiatric outpatients in China: data from epidemiologic survey in a clinical population. *BMC Psychiatry*, *16*(1), 224. http://doi.org/10.1186/s12888-016-0920-8

Wickett, A., Essman, W., Beck-Jennings, J., Davis, L., McIlvried, J., & Lysaker, P. H. (2006). Cluster B and C personality traits, symptom correlates, and treatment utilization in postacute schizophrenia. *The Journal of Nervous and Mental Disease*, *194*(9), 650–3. http://doi.org/10.1097/01.nmd.0000235509.00780.85

Willinger, U., Heiden, A. M., Meszaros, K., Formann, A. K., & Aschauer, H. N. (2002). Maternal bonding behaviour in schizophrenia and schizoaffective disorder, considering premorbid personality traits. *The Australian and New Zealand Journal of Psychiatry*, *36*(5), 663–8. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12225451

World Health Organization. (1992). *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organization. Retrieved from http://www.worldcat.org/title/icd-10-classification-of-mental-and-behavioural-disorders-clinical-descriptions-and-diagnostic-guidelines/oclc/28294867%3Fpage%3Dcitation

Yung, A. R., & McGorry, P. D. (1996). The initial prodrome in psychosis: descriptive and qualitative aspects. *The Australian and New Zealand Journal of Psychiatry*, *30*(5), 587–99. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8902166

Yung, A. R., McGorry, P. D., McFarlane, C. A., Jackson, H. J., Patton, G. C., & Rakkar, A. (1996). Monitoring and care of young people at incipient risk of psychosis. *Schizophrenia Bulletin*, *22*(2), 283–303. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8782287

Yung, A. R., Nelson, B., Stanford, C., Simmons, M. B., Cosgrave, E. M., Killackey, E.,

… McGorry, P. D. (2008). Validation of "prodromal" criteria to detect individuals at ultra high risk of psychosis: 2 year follow-up. *Schizophrenia Research*, *105*(1–3), 10–17. http://doi.org/10.1016/j.schres.2008.07.012

Yung, A. R., Phillips, L. J., Yuen, H. P., Francey, S. M., McFarlane, C. A., Hallgren, M., & McGorry, P. D. (2003). Psychosis prediction: 12-month follow up of a high-risk ("prodromal") group. *Schizophrenia Research*, *60*(1), 21–32. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12505135

Yung, A. R., Yuen, H. P., Berger, G., Francey, S., Hung, T.-C., Nelson, B., … McGorry, P. (2007). Declining transition rate in ultra high risk (prodromal) services: dilution or reduction of risk? *Schizophrenia Bulletin*, *33*(3), 673–81. http://doi.org/10.1093/schbul/sbm015

Yung, A. R., Yung, A. R., Pan Yuen, H., Mcgorry, P. D., Phillips, L. J., Kelly, D., … Buckby, J. (2005). Mapping the Onset of Psychosis: The Comprehensive Assessment of At-Risk Mental States. *Australian & New Zealand Journal of Psychiatry*, *39*(11–12), 964–971. http://doi.org/10.1080/j.1440-1614.2005.01714.x

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., Silk, K. R., Hudson, J. I., & McSweeney, L. B. (2007). The Subsyndromal Phenomenology of Borderline Personality Disorder: A 10-Year Follow-Up Study. *American Journal of Psychiatry*, *164*(6), 929–935. http://doi.org/10.1176/ajp.2007.164.6.929

Zanarini, M., Frankenburg, F., Sickel, A., & Yong, L. (1996). *The Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV)*. Belmont, MA: McLean Hospital.

Zimmerman, M. (1994). Diagnosing personality disorders. A review of issues and research methods. *Archives of General Psychiatry*, *51*(3), 225–45. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8122959

Zimmerman, M., Chelminski, I., & Young, D. (2008). The frequency of personality disorders in psychiatric patients. *The Psychiatric Clinics of North America*, *31*(3), 405–20, vi. http://doi.org/10.1016/j.psc.2008.03.015

Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology*, *86*(2), 103–126. http://doi.org/10.1037//0021-843X.86.2.103

Acknowledgment Journals/Manuals:

Journals or manuals that gave permission to use their figures or part of their text from the following papers/chapters:

- American Psychiatry Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC.: APA.
- American Psychiatry Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Washington, DC: APA.
- Breitborde, N. J. K., Srihari, V. H., & Woods, S. W. (2009). Review of the operational definition for first-episode psychosis. *Early Intervention in Psychiatry*, *3*(4), 259–65.
- Schultze-Lutter, F., Michel, C., Schmidt, S.J., Schimmelmann, B.G., Maric, N.P., Salokangas, R.K.R., Riecher-Rössler, A., van der Gaag, M., Nordentoft, M., Raballo, A., Meneghelli, A., Marshall, M., Morrison, A., Ruhrmann, S., Klosterkötter, J., 2015. EPA guidance on the early detection of clinical high risk states of psychoses. *Eur. Psychiatry* 30, 405–416.
- Sevilla-Llewellyn-Jones, J., Camino, G., Russo, D. A., Painter, M., Montejo, A. L., Ochoa, S., … Perez, J. (2018). Clinically significant personality traits in individuals at high risk of developing psychosis. *Psychiatry Research*, *261*.
- Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Espina-Eizaguirre, A., Moreno-Kustner, B., & Ochoa, S. (2017). Subjective quality of life in recent onset of psychosis patients and its association with sociodemographic variables, psychotic symptoms and clinical personality traits. *Early Intervention in Psychiatry*.
- Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Espina-Eizaguirre, A., Moreno-Küstner, B., & Ochoa, S. (2017). Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender. *Schizophrenia Research*.
- Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Peñuelas-Calvo, I., Espina-Eizaguirre, A., Moreno-Kustner, B., & Ochoa, S. (2017). Personality traits and psychotic symptoms in recent onset of psychosis patients. *Comprehensive Psychiatry*, *74*, 109–117.
- Shah, J. L., Tandon, N., & Keshavan, M. S. (2013). Psychosis prediction and clinical utility in familial high-risk studies: selective review, synthesis, and implications for early detection and intervention. *Early Intervention in Psychiatry*, *7*(4), 345–60.
- World Health Organization. (1993). Criteria for Personality Disorders. *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines (p. 123)*. Geneva: World Health Organization.
- Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology*, *86*(2), 103–126.

APPENDIXES

Appendix 1

Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender.

Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender

Reference: Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Espina-Eizaguirre, A., Moreno-Küstner, B., & Ochoa, S. (2018). Personality traits in recent-onset-of-psychosis patients compared to a control sample by gender. *Schizophrenia Research*, *195*, 86–92. http://doi.org/10.1016/j.schres.2017.08.042

Abstract: Personality traits in recent onset of psychosis (ROP) patients are an under-researched area. Our aim was to examine clinical and clinically significant personality traits in ROP patients compared with a healthy control sample by gender. Data were obtained from 94 ROP patients and a control sample matched in gender and age. The Millon Clinical Multiaxial Inventory and a sociodemographic scale were used. T for independent samples, U-Mann-Whitney and Fisher tests were applied to make comparisons. All personality traits were significantly higher in ROP than control participants in the general sample, except histrionic, narcissistic, and compulsive traits which were higher in controls. Clinically significant schizoid, avoidant, dependent and antisocial personality traits were more common in the ROP than the control participants. However, histrionic clinically significant trait was more common in the control sample. In relation to the males and female samples, more significant differences were found in the male sample in comparison to their control counterparts than in the female sample. These results highlight the importance of the study of clinical personality traits in patients with ROP and the importance of viewing these differences in relation to gender because of the possible therapeutic implications.

Appendix 2

Personality traits and psychotic symptoms in recent onset of psychosis patients.

Personality traits and psychotic symptoms in recent onset of psychosis patients

Reference: Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Peñuelas-Calvo, I., Espina-Eizaguirre, A., Moreno-Kustner, B., & Ochoa, S. (2017). Personality traits and psychotic symptoms in recent onset of psychosis patients. *Comprehensive Psychiatry*, *74*, 109–117. http://doi.org/10.1016/j.comppsych.2017.01.006

Abstract: OBJECTIVE: Personality in patients with psychosis, and particularly its relation to psychotic symptoms in recent onset of psychosis (ROP) patients, is understudied. The aims of this research were to study the relation between dimensional and categorical clinical personality traits and symptoms, as well as the effects that symptoms, sex and age have on clinically significant personality traits.
METHODS: Data for these analyses were obtained from 94 ROP patients. The Millon Clinical Multiaxial Inventory and the Positive and Negative Syndrome Scale were used to assess personality and symptoms. Correlational Analysis, Mann-Whitney test, and, finally, logistic regression were carried out.
RESULTS: The negative dimension was higher in patients with schizoid traits. The excited dimension was lower for those with avoidant and depressive traits. The anxiety and depression dimension was higher for patients with dependent traits. The positive dimension was lower for patients with histrionic and higher for patients with compulsive traits. Logistic regression demonstrated that gender and the positive and negative dimensions explained 35.9% of the variance of the schizoid trait. The excited dimension explained 9.1% of the variance of avoidant trait. The anxiety and depression dimension and age explained 31.3% of the dependent trait. Gender explained 11.6% of the histrionic trait, 14.5% of the narcissistic trait and 11.6% of the paranoid trait. Finally gender and positive dimension explained 16.1% of the compulsive trait.
CONCLUSIONS: The study highlights the importance of studying personality in patients with psychosis as it broadens understating of the patients themselves and the symptoms suffered.

Appendix 3

Subjective quality of life in recent onset of psychosis patients, and its association with sociodemographic variables, psychotic symptoms and clinical personality traits.

Subjective quality of life in recent onset of psychosis patients and its association with sociodemographic variables, psychotic symptoms and clinical personality traits

Reference: Sevilla-Llewellyn-Jones, J., Cano-Domínguez, P., de-Luis-Matilla, A., Espina-Eizaguirre, A., Moreno-Kustner, B., & Ochoa, S. (2017). Subjective quality of life in recent onset of psychosis patients and its association with sociodemographic variables, psychotic symptoms and clinical personality traits. *Early Intervention in Psychiatry*. http://doi.org/10.1111/eip.12515

Abstract: AIM: There is lack of research on the study of clinical personality traits in recent onset of psychosis (ROP) patients. The aims of this research were to study the relations among psychosocial, personality and clinical characteristics in ROP patients and also the effect that significant variables had on the different domains of Quality of Life (QoL).
METHODS: Data for these analyses were obtained from 81 ROP patients. The Millon Clinical Multiaxial Inventory, the Positive and Negative Syndrome Scale and the World Health Organization Quality of Life Brief Scale were used to assess personality, symptoms and QoL.
RESULTS: Correlations between the negative symptoms and the physical, psychological and social domains of QoL, and the disorganized symptoms and physical domain, were found. Furthermore, the physical, psychological and social relationship domains of QoL were lower in patients with schizoid traits and the psychological domain was lower in patients with depressive traits. In contrast, the psychological and social domains were higher in patients with histrionic traits, while the physical domain was higher for patients with narcissistic traits. Multiple linear regressions demonstrated that negative symptoms and narcissistic and depressive traits explained 16.9% of the physical domain. Narcissistic and depressive traits explained 15% of the psychological domain. Finally, the negative symptoms and histrionic traits explained 13.7% of the social domain.
CONCLUSIONS: QoL seems to be better explained by negative psychotic symptoms and some clinical personality traits. Our results support the importance of integrated intervention approaches that consider personality.

Appendix 4

Clinically significant personality traits in individuals at high risk of developing psychosis

Clinically significant personality traits in individuals at high risk of developing psychosis

Reference: Sevilla-Llewellyn-Jones, J., Camino, G., Russo, D. A., Painter, M., Montejo, A. L., Ochoa, S., … Perez, J. (2018). Clinically significant personality traits in individuals at high risk of developing psychosis. *Psychiatry Research*, *261*, 498–503. http://doi.org/10.1016/j.psychres.2018.01.027

Abstract: It is still unclear to what extent personality may influence the development of psychosis. We aimed to explore significant personality traits in individuals at high-risk (HR) for psychosis. Personalities of forty HR individuals and a matched sample of 40 healthy volunteers (HVs) were evaluated with the Millon Multiaxial Inventory (MCMI-III). They were also assessed with the Positive and Negative Symptoms Scale (PANSS), Beck Depression and Anxiety Inventories (BDI-II and BAI), Global Assessment of Functioning (GAF) and Mini-International Neuropsychiatric Interview (MINI 6.0.0). Fisher's exact test was employed to compare frequency of traits. Mann-Whitney U test and logistic regression were used to establish relationships between traits and symptoms, and the effect of age, sex and symptoms on such traits. Most HR individuals (97.5%) had at least one significant trait; 75% had personality disorders, mainly depressive, borderline or schizotypal. Only histrionic and narcissistic traits were more prevalent in HVs. Negative symptoms were related to schizoid and paranoid traits. Depression was more severe with borderline traits. Most HR individuals (67.6%) had more than one DSM-IV Axis I diagnosis, mainly depressive/anxiety disorders. Transition rate was low (5%). Certain personality profiles may not be markers for conversions to psychosis but contribute to high morbidity in HR individuals.