

The Effect of Child Sexual Abuse on Social Functioning in Schizophrenia Spectrum Disorders

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Daniel López-Mongay,¹ Maribel Ahuir,^{2,3}
Josep M^a Crosas,³ J. Blas Navarro,¹ 
José Antonio Monreal,³ Jordi E. Obiols,¹
and Diego Palao^{2,3}

Abstract

The objective of this study was to explore social functioning in schizophrenic patients who have suffered child sexual abuse (CSA) in comparison with those who have not suffered from it in a Spanish sample of 50 patients with schizophrenia or schizoaffective disorder. The Quality of Life (QOL) Scale, the Childhood Trauma Questionnaire (CTQ-SF), and the NEO Five Factor Inventory (NEO-FFI) were administered in this study. We found a CSA prevalence of 22% in our sample. Results showed that QOL global scores reduced by 9.34% at a statistically significant level ($p = .037$) in sexually abused patients in comparison with those who did not report experiencing sexual abuse. Regression analysis in the QOL scales showed no differences in intrapsychic foundation scores or in the social relations scale. Scores in the instrumental role scale were reduced by 4.42 points in patients with CSA ($p = .009$). Neither neuroticism nor extraversion results differ between the trauma group and those who did not suffer trauma. Clinical implications of these results are discussed.

¹Universitat Autònoma de Barcelona, Facultat de Psicologia, Bellaterra, Spain

²Universitat Autònoma de Barcelona, Facultat de Medicina, Bellaterra, Spain

³Servei de Salut Mental, Parc Taulí Hospital Universitari, Sabadell, Spain

Corresponding Author:

Daniel López-Mongay, Departament de Psicologia Clínica i de la Salut, Universitat Autònoma de Barcelona, C/ Del Riu 7, 2-1 08780 Pal·lejà, Barcelona, Spain.

Email: daniellopezmongay@gmail.com

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sexual abuse, child abuse, anything related to child abuse, mental health and violence

Psychopathological research has evolved toward finding risk factors that would explain the etiology of schizophrenia spectrum disorders. van Os, Kenis, and Rutten (2010) show that high heritability estimates indicate a strong genetic influence on these disorders. However, the well-known stress-vulnerability model of etiological influence in psychiatry assumes that genetic factors operate by making individuals selectively vulnerable to environmental risks (gene-environment interactions or GxE). Environmental risk factors for schizophrenia are diverse and can occur both in prenatal stages as well as in early and late childhood. Examples of environmental factors include urbanization, being a member of a minority group, cannabis use, and trauma.

Recent research shows that exposure to trauma, such as child abuse, may result in a heightened risk of developing schizophrenia and worsening of positive symptoms in schizophrenic patients, impairment in social and vocational functioning over time, severe levels of anxiety, and poorer response to treatment (Bentall, Wickham, Shevlin, & Varese, 2012; Gil et al., 2009; Lysaker, Outcalt, & Ringer, 2010; Varese et al., 2012). Shah et al. (2014) define child abuse as maltreatment that involves nonaccidental behavior toward another person, which is outside the norms of conduct and that entails substantial risk of causing physical or emotional harm.

One of the most traumatic events is child sexual abuse (CSA), which is highly prevalent in people with schizophrenia spectrum disorders. Research shows that 34.5% of individuals with a psychotic disorder have suffered CSA compared with 1.8% of individuals with no psychiatric diagnosis (Lysaker, Buck, & Larocco, 2007). CSA, as stated by Sanderson (2006), is a social construct that is heavily influenced by the culture and moment where the abuse occurs, so it is hard to establish a universally agreed definition. However, CSA can be defined as

the involvement of dependent children and adolescents in sexual activities with an adult or any other older or bigger person, where there is a difference in age, size or power, in which the child is used as a sexual object for the gratification of the older person's needs or desires, and to which the child is unable to give informed consent due to the imbalance of power or any mental or physical disability. (Sanderson, 2006)

CSA has been shown to impair social functioning. Victims of CSA are at an especially high risk of developing insecure attachment representation,

which is associated with relational problems, including couple dissatisfaction (Godbout, Briere, Sabourin, & Lussier, 2014). In turn, social functioning is also an area that is affected in patients with schizophrenia. Research shows that social impairment generally worsens over the course of the disorder and is often resistant to antipsychotic treatment (Bora, Eryavuz, Kayahan, Sungu, & Veznedaroglu, 2006). This evidence poses the following question: Given that CSA and suffering from schizophrenia impair social functioning, do patients with schizophrenia spectrum disorders who have suffered CSA demonstrate greater impairment in social functioning than those patients who have not suffered from CSA?

Several studies have explored the relationship between childhood abuse and social functioning in patients diagnosed with schizophrenia. Hodgins, Lincoln, and Mak (2009) showed that the number of victimization experiences was strongly and positively associated with the total score for real-life functioning. Moreover, they state that clinicians rarely ask about victimization experiences nor help them to develop strategies to avoid such experiences. Gil et al. (2009) found an association between physical and emotional neglect in childhood and poorer social functioning in adulthood. However, this was not true for CSA. Few studies have examined the specific impact of CSA on the social functioning of patients diagnosed with schizophrenia. Lysaker, Meyer, Evans, Clements, and Marks (2001) explored the presence of CSA and the social functioning of 54 patients diagnosed with schizophrenia or schizoaffective disorder. It was found that individuals with a history of CSA had poorer role functioning, fewer of the psychological resources necessary for sustaining intimacy, and higher levels of emotional instability and turmoil. In light of the scarcity of studies in this area and the lack of consensus about the impact of CSA on social functioning among patients with schizophrenia, there is a need to contribute more evidence. With this in mind, we intended to replicate the Lysaker et al. study (Lysaker et al., 2001) including a more precise instrument to evaluate CSA. This is because the study by the Lysaker group only assessed CSA. Therefore, the possible effects of other types of trauma that patients may have experienced were not controlled for and therefore, the results obtained in the present study may differ when other types of trauma are included in the statistical analyses.

The objective of this study was to explore social functioning in schizophrenic patients who have suffered CSA in comparison with those who have not suffered from it. We hypothesized that patients who have suffered CSA will show poorer levels of role or work functioning, a pattern of less frequent social contact with others, lower levels of the psychological resources necessary for interpersonal relationships, and higher levels of vulnerability to emotional turmoil.

Method

Participants

Participants were recruited at a community rehabilitation center at the Corporació Sanitaria Parc Taulí in Sabadell (Barcelona) between April and July of 2015. The initial sample comprised 57 possible participants, although 5 of them decided not to take part in the study, and 2 were not able to schedule the required appointments to participate. Therefore, the final sample comprised 50 persons who had been diagnosed, according to *Diagnostic and Statistical Manual of Mental Disorders*—5th edition (DSM-5; American Psychiatric Association, 2013) criteria, with schizophrenia or schizoaffective disorder. Individuals were excluded if they had intellectual disability or a history of traumatic head injury. In addition, all the participants were in a post-acute phase of their illness, defined as having no hospitalizations or changes in medication in the past month. The demographic characteristics of the participants are summarized in Table 1.

Instruments

The Quality of Life (QOL) Scale (Heinrichs, Hanlon, & Carpenter, 1984) in its Spanish version (Rodríguez, Soler, Rodríguez, Jarne Esparcia, & Miarons, 1995) was used to assess the participants' current interpersonal and work functioning. The QOL Scale is a 21-item semistructured interview administered by clinically trained staff, which is designed to evaluate the patient's social functioning. The individual items of the QOL Scale are scored on a 7-point Likert-type scale, with higher ratings indicating higher levels of functioning.

Three subscales from the QOL Scale were used. The first was intrapsychic foundation that measures the building blocks from which interpersonal functioning is derived. The second was interpersonal relations that measure interpersonal and social functioning. Finally, we employed the instrumental role scale that assesses functioning in a defined social role. The Spanish version of the QOL Scale demonstrates high internal consistency, with a global Cronbach's alpha of 0.963.

The NEO Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992) in its Spanish version (Cordero Pando, Pamos, Seisdedos Cubero, & Costa, 1999) was used to assess the personality dimensions that are important to social functioning. It consists of a self-report test in which participants are asked to rate on a 5-point Likert-type scale, the degree to which individual statements are true or not true about themselves. Neuroticism and extraversion were used for this study. These two factors have been found to be reliable and

Table 1. Demographic and Clinical Variables Descriptive Statistics of the Sample ($n = 50$).

	Without CSA $n = 39$ (78%)	With CSA $n = 11$ (22%)	
	n (%)	n (%)	p
Sex			
Male	25 (80.7)	6 (19.45)	.727
Female	14 (73.7)	5 (26.3)	
Level of education			
Primary (<9 years)	10 (76.9)	3 (23.1)	.544
Secondary (<14 years)	28 (80.0)	7 (20.0)	
Superior (≥ 14 years)	1 (50.0)	1 (50.0)	
Any type of abuse ^a			
Yes	21 (65.6)	11 (34.4)	.004
No	18 (100.0)	0 (0.0)	
Diagnostic			
Schizophrenia	26 (78.8)	7 (21.2)	1.000
Schizoaffective disorder	13 (76.5)	4 (23.5)	
	M (SD)	M (SD)	p
Age	40.48 (9.1)	38.98 (10.3)	.640
CTQ			
Sexual abuse	5.28 (0.60)	12.45 (5.30)	<.001
Emotional abuse	8.74 (3.63)	11.91 (5.32)	.026
Physical abuse	6.77 (2.50)	8.55 (5.07)	.111
Emotional neglect	12.03 (4.62)	12.18 (5.08)	.923
Physical neglect	7.67 (2.39)	8.73 (3.50)	.248

Note. Cut scores are selected following CTQ's guidelines (emotional abuse ≥ 13 /physical abuse ≥ 10 /sexual abuse ≥ 8 /emotional neglect ≥ 15 /physical neglect ≥ 10). CSA = child sexual abuse; CTQ = Childhood Trauma Questionnaire.

^aPresence of any type of childhood abuse.

stable among persons with schizophrenia, and both are related to role functioning (Lysaker et al., 2001). The NEO-FFI demonstrates high internal consistency with values ranging from 0.85 to 0.91.

The presence of CSA was determined using the short version of the Childhood Trauma Questionnaire (CTQ-SF; Bernstein et al., 2003) in its Spanish version (Hernandez et al., 2013). The CTQ-SF is a 28-item retrospective self-administered questionnaire that measures five different types of child maltreatment: emotional abuse, physical abuse, sexual abuse, emotional

neglect, and physical neglect. Each of these five subscales are represented by five items assessed using a 5-point Likert-type scale. The Spanish version of the CTQ-SF shows Cronbach's alpha values between 0.66 and 0.94 for its five scales, as well as good convergent and divergent validity (Hernandez et al., 2013). The presence of a history of CSA was determined by scores higher than eight points (moderate to severe) in the sexual abuse scale of the CTQ-SF.

Procedure

The authors of the article who were responsible for the community rehabilitation center approved participation in the study by all the eligible candidates. Candidates were invited to an individual meeting and asked if they were willing to participate in the study. After they provided informed consent, participants were directed to the principal author who individually administered the QOL and NEO-FFI. The CTQ-SF was administered by the patients' current therapist to minimize distress.

Statistical Analysis

Statistical analysis was performed using STATA 14.0. To analyze raw comparisons between patients with CSA and those without, student *t* test and Pearson's chi-square, or Fisher exact test if expected frequencies were lower than five, were used. To determine the effect of CSA on the QOL, neuroticism, and extraversion, different linear regression models were estimated taking CSA as the independent variable, with the dependent variables being global QOL, its three scales, neuroticism, and extraversion. In these models, we tested whether gender and/or the diagnosis (schizophrenia vs. schizoaffective disorder) moderated the influence of CSA on each dependent measure. All these regression models are adjusted by scores for physical and emotional abuse or negligence, and in addition, we examined whether gender, diagnosis, age, and number of hospitalizations were necessary as adjusting terms. These last three terms remained in the model if the difference between adjusted and raw effects was higher than 10% (Maldonado & Greenland, 1993).

These regression models provide the adjusted mean difference in QOL, neuroticism, and extraversion between CSA and non-CSA participants. In addition, Cohen's *d* was calculated for each mean difference. Normality and homoscedasticity of residuals and linearity of the relationship were verified for each regression model. The Type 1 error was 0.05 for all analysis.

Table 2. Raw Comparison on Clinical and Psychometric Variables Between Non-CSA and CSA Patients ($n = 50$).

	Without CSA			With CSA			<i>p</i>
	<i>M</i> (<i>SD</i>)	Minimum	Maximum	<i>M</i> (<i>SD</i>)	Minimum	Maximum	
QOL Scale (global)	49.90 (13.3)	27	76	42.18 (6.8)	28	52	.071
Intrapsychic foundation	22.18 (6.7)	11	35	21.00 (5.2)	10	27	.594
Interpersonal relations	20.49 (8.4)	6	39	16.45 (5.6)	10	26	.142
Instrumental role	13.28 (4.3)	3	21	9.36 (4.5)	3	14	.010
Neuroticism	64.21 (8.4)	41	75	69.82 (4.9)	62	75	.040
Extraversion	35.38 (10.2)	25	56	35.64 (9.2)	25	50	.942
# of hospitalizations	2.77 (1.80)	1	7	3.64 (3.2)	0	10	.247

Note. CSA = child sexual abuse; QOL = Quality of Life; # = Number.

Table 3. Regression Analysis on the Influence of CSA on Quality of Life Scales and Personality Scores ($n = 50$).

	<i>B</i>	<i>t</i>	<i>p</i>	CI 95%	Cohen's <i>d</i>
QOL Scale	-9.34	-2.15	.037	[-18.1, -0.60]	0.76
Intrapsychic foundation ^a	-2.15	-0.93	.358	[-6.8, 2.5]	0.34
Interpersonal relations ^a	-4.93	-1.72	.093	[-10.7, 0.85]	0.62
Instrumental role	-4.42	-2.75	.009	[-7.7, -1.2]	1.04
Neuroticism	4.35	1.54	.131	[-1.4, 10.0]	0.31
Extraversion ^a	-1.13	-0.31	.757	[-8.5, 6.2]	0.11

Note. Values in bold are statistically significant. All the coefficients are adjusted by physical and emotional abuse or negligence. CSA = child sexual abuse; CI = confidence interval; QOL = Quality of Life.

^aCoefficients that are additionally adjusted by number of hospitalizations, gender, and age.

Results

The authors found a CSA prevalence of 22% in our sample. The descriptive statistics for clinical and psychometric measures for the two groups and their raw statistical comparison are shown in Table 2. Global QOL and its scales presented systematically lower values in the CSA group. Neuroticism seemed higher for CSA, whereas extraversion has similar mean values.

Regression analysis results are summarized in Table 3. In the analysis of the influence of sexual abuse on QOL, neither gender ($p = .267$) nor diagnosis ($p = .803$) were significant as interaction terms. Similarly, they did not have an interaction effect for the analysis of intrapsychic foundation ($p = .841$ and $p = .255$, respectively, for sex and diagnosis), interpersonal relations ($p = .055$ and $p = .699$), instrumental role ($p = .676$ and $p = .223$), neuroticism ($p = .451$ and

$p = .426$), and extraversion ($p = .230$ and $p = .739$). QOL global scores were 9.34% lower ($p = .037$) in patients who had a history of CSA in comparison with those who did not report experiencing sexual abuse. Regression analysis in the QOL scales showed that intrapsychic foundation scores were 2.15 points lower in patients with a history of CSA, although these differences were not significant ($p = .358$). In the interpersonal relations scale, no differences between the groups were found ($p = .102$). Scores on the instrumental role scale were 4.42 points lower in patients with CSA ($p = .009$). Neuroticism and extraversion results did not differ between the trauma group and those who did not suffer trauma ($p = .131$ and $p = .757$, respectively).

Cohen's d presents moderate to high values ($d \geq 0.5$) for QOL Scale, interpersonal relations and instrumental role.

Discussion

First, we found a high prevalence of CSA among patients with schizophrenia and schizoaffective disorder compared with the prevalence found in the general Spanish population (9.5%; Pereda Beltrán, 2016) even though it was lower than in the previous literature. The results obtained in the present study were in line with those of the Lysaker et al. (2001) study. Although we were not able to find significant results in all the analyses performed, the differences were in the direction expected in the hypothesis. We found that patients who experienced CSA had poorer levels of role or work functioning and a generally poorer quality of life.

As in the study by Lysaker et al. (2001), we did not find significant differences between the two groups in the levels of extraversion and in the results from the scale of interpersonal relations that assesses interpersonal and social functioning. These results support their hypothesis that CSA is not linked to the level of socialization, which is usually low in patients with schizophrenia. However, we did not find a significant difference in the intrapsychic foundation scale that measures the building blocks from which interpersonal functioning is derived. No significant differences were found on the neuroticism scale that evaluates emotional instability, as opposed to the results found in the study by Lysaker et al. (2001). One possible explanation might be the methodology used in the said study only assessed CSA. In the present study, all five types of trauma measured in the CTQ-SF were considered and controlled for in both groups, which might explain why we did not find similar results. Future research with a pure nontrauma group is needed.

Although we did not find all the significant results we expected, these results are relevant at a clinical level. QOL Scale among patients who suffered CSA was 9.34% worse than among those who did not experience this

type of abuse, which agrees with the previous literature on the subject (Boyette et al., 2014). The significant results for the instrumental role, which measures functioning in a defined social role, demonstrate that CSA also impairs the adjustment to work or specific socially desirable roles that might limit that patient's ability to successfully perform a job in the future. One possible way to explain why CSA further impairs social functioning in patients with schizophrenia spectrum disorders may be perceived parental support. As demonstrated by Godbout et al. (2014) with a nonclinical population that had suffered CSA, perceived parental support counteracts negative outcomes and fosters healthier interpersonal and intrapersonal adjustment in CSA victims, perhaps through the development of positive internal working models of self and other. In future research, it would be interesting to study whether perceived parental support is lower in CSA victims diagnosed with schizophrenia spectrum disorders in comparison with the general population and whether perceived parental support can be a mediator variable for a higher impairment of social functioning. Our results might not be specific to schizophrenia spectrum disorders. A meta-analysis by Olatunji, Cisler, and Tolin (2007) showed that their results revealed a large effect size indicating poorer overall QOL Scale among anxious patients versus controls. That preliminary evidence did suggest that QOL Scale may be most compromised in patients with panic disorder and posttraumatic stress disorder (PTSD). Therefore, we could expect a history of CSA to further impair social functioning in patients diagnosed with anxiety disorders.

This study was considered a pilot study, so it had several limitations. First, the CTQ-SF and NEO-FFI are self-administered questionnaires. Fisher et al. (2011) explain that retrospective designs can produce unreliable and inaccurate accounts as events recalled from a long time ago may be affected by normal processes of forgetfulness, depression, infantile and traumatic amnesia, subsequent events, and a need to justify or understand mental illness. These are potentially compounded by the cognitive impairments, delusional beliefs, and detachment from reality associated with psychosis. However, the CTQ's reliability and validity has been confirmed among both inpatients and outpatients with schizophrenia, supporting this instrument's value among even the most severely ill patients (Kim, Bae, Han, Oh, & MacDonald, 2013).

It could be also argued that psychotic symptoms might affect the validity of the results, and therefore, the absence of such a measure should be considered a limitation of the study. Nevertheless, we do know that none of our participants had been hospitalized for at least the last 12 months. This fact, plus the expert observation of "clinical stability," gives us reasonable grounds to believe that symptom variations were not a relevant distortion factor in our results.

Also, we used a moderate to severe cut-off score in the CTQ-SF. However, some patients did report suffering from CSA at low to moderate levels, which may have affected the results at some levels. It might be interesting to interview patients who report some level of abuse by looking in more detail at the characteristics of that abuse to evaluate whether CSA actually occurred and to what extent it has affected the patients throughout their lives.

Our sample characteristics and size may also help to explain why we did not obtain the expected significant results in all the analyses performed. First, a sample of 50 patients does not provide optimal statistical power. Second, we had a higher number of female patients in our sample (38%) than in the Lysaker et al. (2001) study. This may explain why we did not obtain significant results in all the scales we expected. A study by Ochoa, Usall, Cobo, Labad, and Kulkarni (2012) showed that female patients with schizophrenia have better social functioning than men, as well as being more resilient when faced with stressful life events. However, more research is needed on the influence of gender on the social functioning of people with schizophrenia who have suffered CSA. Finally, some of the patients in both groups did suffer from other types of abuse, such as emotional neglect, physical neglect, physical abuse, and emotional abuse.

In addition, to reduce the possibility of false positives, we measured CSA with a more comprehensive and precise instrument than in the study by Lysaker et al. (2001). This may have influenced our lower CSA prevalence and show that there are actually fewer differences than shown in the previous literature. In future research, it will be important to include a higher number of patients to obtain a more representative sample, as well as to measure and control by severity of the disorder, symptoms, and duration of the disorder, and use a specific instrument to assess psychological functioning.

As stated by Hodgins et al. (2009), at a clinical level, it is relevant to find out whether the patients have a history of CSA to propose therapeutic approaches that focus on improving social and role skills. For example, patients could be encouraged to engage in therapy programs that strengthen their job skills, as well as social interactions. At the same time, knowing whether the patient has suffered from CSA can help to focus on therapies that are targeted at reducing their levels of emotional instability. Knowledge of this antecedent is fundamental to work on the loss of interpersonal trust related to CSA. This therapeutic work would have to be done prior to interventions aimed at improving social functioning in schizophrenia. Having a history of CSA is a traumatic antecedent that can result in greater difficulty in establishing and maintaining close relationships. These traumatic experiences can also generate greater deficits in socialized coping strategies than

other patients without a history of CSA. Standard interventions for social functioning in schizophrenia might be less effective in patients with psychological problems related with an untreated CSA trauma. However, more research on specific interventions comparing patients with and without a history of CSA is needed. In addition to this, despite the growing evidence of trauma history in patients with psychosis and its influence on clinical and functional outcomes (Bentall et al., 2012; Gil et al., 2009; Lysaker et al., 2010; Varese et al., 2012), little research has been done on the efficacy of the psychological interventions for trauma in this population. This is probably related to the fact that in routine service settings, provision of psychological interventions for comorbid problems such as PTSD has been limited for people with psychotic disorders (The Schizophrenia Commission, 2012). Therefore, more research into the effectiveness of specific interventions for PTSD for people with severe mental illness is needed (Sin, Spain, Furuta, Murrells, & Norman, 2017). Overall, our results were consistent with the Lysaker group. Patients with schizophrenia or schizoaffective disorder did show a high prevalence of CSA compared with that found in the general population, and patients with a history of CSA showed poorer levels of role or work functioning and a lower quality of life. Overall, this confirms that a history of CSA may impair social functioning in patients with schizophrenia spectrum disorders.

Authors' Note

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ORCID iD

J. Blas Navarro  <https://orcid.org/0000-0001-5929-4224>

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Author Biographies

Daniel López-Mongay (1987) is a clinical psychologist by SUNY Empire State College and University of New York in Prague. He obtained a postgraduate degree on sex and couple's therapy from the University of Barcelona and a MS on psychological research applied to health sciences from the Autonomous University of Barcelona. He is currently working on his PhD thesis about childhood trauma and social functioning in schizophrenia spectrum disorders at the Autonomous University of Barcelona.

Maribel Ahuir (1977) is a clinical psychologist and member of Parc Taulí Hospital's psychosis research group. She develops her clinical work at the community rehabilitation service and at the incipient psychosis program. Currently she is working on her PhD thesis on metacognition and cognitive biases in schizophrenia. She is the author of several articles on the topic of psychosis in both national and international journals. She also collaborates as a docent at a master level and resident psychology specialists.

Josep M^a Crosas (1972) is a clinical psychologist and coordinates the mental health community rehabilitation service for severe mental disorders at the University Hospital Parc Taulí in Sabadell (Spain). Likewise, he works as a collaborative researcher at the Parc Taulí Hospital's Psychosis research group and as a collaborative docent at the Autonomous University of Barcelona. Most of his research activity has focused on psychotic disorders and the study of cognition and psychological intervention's efficacy for psychotic disorder's functional recovery.

J. Blas Navarro has a doctorate in psychology, a master's degree in design and statistics in health sciences and is a professor at the Autonomous University of Barcelona. He is a specialist in research methodology, validation of instruments, and data analysis. He has participated in numerous research projects in different areas of health sciences, from psychology to medicine, through nursing, physiotherapy, and so on. He is a current member of different funded research groups in the areas of child clinical psychology, adult clinical psychology, and quality of life of kidney and liver living donors. Since 2001, his methodological research focuses on the application of multi-level regression models in the field of psychology.

José Antonio Monreal has an MD from the University of Valencia and a master's degree in neurosciences and mental health from Open University of Catalonia, a doctorate from the Department of Psychiatry and Legal Medicine of the Autonomous University of Barcelona. He is a specialist in psychiatry at the Free University of Brussels. He has worked as a psychiatrist in France and Barcelona and as a director of the Mental Health Service of Consorci Sanitari de L'Anoia. He has been the coordinator of the Area of Investigation in Neurosciences at Parc Taulí. Since 2009, he works as Head of Service of the adult community area of Mental Health at Parc Taulí University Hospital (Sabadell).

Jordi E. Obiols has an MD from the University of Barcelona and a doctorate degree in medicine in 1985. Since 1995, he is a professor of psychopathology at the Department of Clinical and Health at the Universitat Autònoma de Barcelona. He is the head of the Research Unit on Psychopathology and Neuropsychology and coordinates the official Master Research and Clinical Psychology Master at the Universitat Autònoma de Barcelona. His main field of interest is schizophrenia and, specifically, the study of psychobiological risk markers for these psychoses. He has published several monographs on schizophrenia and more than 60 research articles in specialized journals.

Diego Palao is a psychiatrist and titular professor of psychiatry at the Universitat Autònoma de Barcelona. He is also executive director of the Mental Health Service of the University Hospital Parc Taulí (Barcelona), where he manages the specialized services of mental health addressed to half a million people. He is member of the advisory board of the Mental Health and Addictions Plan (Catalonia Government) since 2007. He has written more than 60 papers on affective disorders, suicide prevention, psychosis, and mental illness in primary care. He is currently head of the Neurosciences Research Group, recently associated to the CIBERSAM (Spain).