

Psychotherapy Process Research in Schizophrenia Paranoid Type: The Investigation of Delusion Formation through the Evaluation of In-Session Events

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Abstract

The study aimed to investigate delusion formation in paranoid type schizophrenia through the evaluation of the relation between specific in-session events and the session outcome. Six transcripts of integrative psychotherapy sessions -three with good and three with bad outcome- of an individual suffering from paranoid type schizophrenic symptoms were evaluated by five raters in order: a) to locate the in-session events related to delusion formation and b) to explore the relation of these events to a number of mechanisms postulated to be involved in delusion formation, utilizing the newly developed Scale for the In-session Investigation of Delusion Formation. Although, no significant differences were found in the total number of the in-session events counted in the sessions with good and bad outcome, the evaluations obtained by the raters were found to be affected by the patient's general decrease in psychopathological symptoms due to a significant parallel reduction of anxiety and delusions in paranoid type schizophrenia.

Keywords: Psychotherapy process research, Schizophrenia, Delusion formation, Anxiety, In-session event.

Introduction

Until recently, in the field of process research much emphasis has been placed on the observation and description of process variables, with corresponding lack of emphasis on the development of relevant theory [1- 12]. Moreover, past and current research provides evidence which mostly relates to the process variables occurring during treatment of individuals suffering from neurotic behaviours or relational problems, while psychotic phenomena remain unexplored [13- 16]. One fundamental issue about process research is that it is relatively easy to describe process phenomena that appear to make a significant contribution to outcome and are acknowledged by clinicians as interesting and worthy of research. Nevertheless, it seems extremely difficult to construct a theory that will allow the understanding of interactions between process and outcome phenomena [17- 21].

Our research team has already developed specific theoretical hypotheses for the understanding of the mechanisms of delusion formation in individuals suffering from positive and negative psychotic symptoms in the context of schizophrenia paranoid type and schizoaffective disorder [19, 22- 29]. We have begun to test them through various psychotherapy processes and outcome research projects [30-48]. The principles of our methodological approach to psychotherapy are published elsewhere [19, 20, 49-52]. In the present

study we relate the in-session process events to the specific session's good or bad outcome.

Theories and mechanisms of delusion formation

Up to date, delusion formation is understood through certain theoretical viewpoints, the motivational, the defect and the integrative theories [29, 33, 53-57]. Motivational theories suggest that delusion is a product of certain fundamental deficits, caused by certain psychological processes, attempting to reduce an uncomfortable state experienced by the individual, serving a fulfilling function within the emotional life and inner self of the individual or is related to an autistic predisposition occurred early in life, for further details see [29, 53, 54, 57, 58]. Defect theories propose that delusion is a product of certain fundamental deficits, such as cognitive deficits or disturbances in the information processing, defects in the attentional focusing preventing the individual from being able to effectively distinguish between irrelevant and relevant data, leading to attentional bias for information relevant to the self, disturbances of perception and judgment, organic pathology, etc., for further details see [29, 54, 57, 59-62]. Finally, integrative theories suggest that delusion is formed and develops through the combination and overlap of fundamental deficits and motivational issues, as well as of other factors and causal influences, for further details see [29, 56, 63-67].

Among others, Synthetiki psychotherapy (where "synthetiki" means integrative -from the Greek word "synthesis"-), the Greek approach developed for the treatment of individuals exhibiting positive and

negative psychotic symptoms (19, 22-28), has offered an integrative proposal for the understanding of delusion formation [29, 32-35, 37]. The model mostly focuses on the following principles for the understanding and treatment of psychotic symptoms (for further details see [19, 24, 25]). First, the integration of different approaches to the treatment of positive and negative schizophrenic symptoms is considered not only possible but has many advantages over conventional one-sided approaches. Secondly, schizophrenic symptoms by themselves are conceptualized to be not as harmful or distressing as the individual's and society's reactions to them. That is, most of the distress resulting from the manifestations of schizophrenia (thought disorder, hallucinations, delusions, etc.) have very little to do with the true nature of illness and much more to do with societal, cultural and other factors, the main one being the way the afflicted person, his family and the mental health professional conceptualize the etiology and treatment of schizophrenic symptoms, for further elaboration of this argument see also [68]. Third, schizophrenic symptoms belong to a continuum starting from normal behavior at the one end. Individuals suffering from schizophrenic symptoms are not totally disturbed; they have a logical part, which can collaborate with the therapist. Finally, paranoid schizophrenic symptoms are often rapidly eliminated -within hours or days- by reducing anxiety through anxiolytic medication or through other means, like psychotherapeutic methods and techniques [30, 51, 69-71].

Synthetic psychotherapy emphasizes the role of the extremely high levels of anxiety in delusion formation (22, 24, 25) and incorporates five mechanisms for the understanding of the phenomenon, which may act independently of each other or may overlap and interweave [29, 32-35, 37, 38]. The first mechanism hypothesizes that delusion is formed as a misinterpretation of the stimuli from the external environment caused by the state of extremely high levels of fear, anxiety or stress. The above is in accordance with the Greek proverb "*a frightened person is threatened by his own shadow*". Obviously, the stimuli in the external environment acquire different attributes depending on the relaxed or fight/flight state of the individual at a given time and context. At a neurophysiological level, the increase of noradrenergic and dopaminergic neurotransmission and the reduced GABAergic neurotransmission associated with hyper vigilance and hypothesized to be associated with a state in the central nervous system which has the tendency to interpret neutral stimuli as threatening [68, 69].

The second mechanism hypothesizes that a delusion is formed as a misinterpretation of somatic and/or psychological changes in the internal environment of the individual which are caused by a state of extremely high levels of fear, anxiety or stress [29, 32-35, 37, 38]. High levels of fear, anxiety or stress are known to be associated with many somatic and/or psychological symptoms, from muscle twitches to thought blocking and feelings of dissociation and de-realization. Since most people are not aware of the above consequences of anxiety, it is easy -depending on personal, family and cultural factors- for the individual to misinterpret muscle twitching as an external force moving his/her arms or legs; thought blocking as stealing his thoughts; irritability (a common symptom of anxiety) as possession by an evil spirit, etc.

The third mechanism suggests that delusion is formed as a helpful to the person "*defense*" against extremely high levels of anxiety [29, 32-35, 37, 38]. Many researchers have emphasized the defensive function of delusions, especially those of persecution; among them, Freud and Karon from the psychodynamic perspective, and

Bentall and colleagues, and Chadwick and colleagues from the cognitive point of view [53, 72-84]. We suggest that the enormous levels of felt anxiety make the person to believe that it might be confronted, if he/she was somebody different and superior than other people, having the ability to control others or having special abilities, super-natural powers and the qualities usually attributed to God.

The fourth mechanism suggests that delusion is formed as an evolutionary helpful to the human species reaction to anxiety [29, 32-35, 37, 38]. Our suggestion is that delusions seem to have their origins in the behaviors of suspiciousness, distrustfulness and "paranoia" of the Homo sapiens, which were used in order to protect the individual's self-existence and survival, since man was both a hunter and a prey for other animals. Besides, it is expected that a characteristic, which was used for protective and survival reasons for too many years cannot suddenly disappear, but remains as an archaic reaction and seems to appear under enormous stress and fear, as a more primitive way of functioning.

Finally, the fifth mechanism of delusion formation suggests that it is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life [29, 32-35, 37, 38]. Ideas, thoughts or wishes covered by guilty or angry feelings or estimated as factors that diminish self-esteem, may lead the individual to believe that people from the close environment can be able to read his/her mind and know what the person is thinking of or wishing to do at the time. We suggest that the ideas of persecution may reflect very negative real life experiences, rigid convictions and strange ideas, usually flourished or elicited from the family members and the surroundings. In such cases, the person becomes unable to discuss, confront, revise or change the strange or threatening ideas and experiences because of isolation, disturbed relationships with others, mistrust or suspiciousness to the close environment, break of contact with them or unsupportive close relatives.

Psychotherapy process research: The study of the in-session events

According to Elliott's review recent types of psychotherapy process research mainly focus on the study of the events that take place during the psychotherapy session [85]. Following his review, such studies mostly question the kinds of the events that exist in psychotherapy, their frequency, their degree or intensity, the features or the patterns they have, their meaning and purpose of existence, the way they have been formed and developed and how well they can be measured.

Although the concept of the event has taken various meanings in the relevant literature, it is commonly agreed that an event can be described as a segment, a thought unit, a portion of a therapy session related to a certain phenomenon, distinguishable by four salient features (see for example [11, 86-93]: a) a patient problem marker, b) a therapeutic operation, c) the client's performance, and d) the immediate in-session outcome [88, 89, 94]. *Any event* is detected by "*the patient's problem marker*", which, according to Greenberg and Safran is defined as: "*a distinctive and reliably identifiable client behavior or statement (or combination of statements and/or behavior) indicating the onset of a particular event of interest in therapy. In addition to specifying a marker for allowing and accepting events, a definition of satisfactory change or resolution in such events would need to be established. Successful resolution in this case might be characterized, for example, by an experience*

of relief, hope and a stronger sense of self on the client's part" [91].

In other words, the marker of an event occurs by the time the client's verbal or nonverbal performance (or performance pattern) -that is, the client's direct or indirect request for help- functions as a signal for the therapist that the individual is ready and the time has come to focus on a special issue and work to solve it [90, 95]. According to Greenberg and Safran, the client's experience following the event can be assessed from multiple perspectives; the client's, the therapist's and/or the external observer's perspective [91].

The aim of the study

The aim of the present psychotherapy process research was to examine the relation between the in-session events in the context of integrative psychotherapy, focusing on the exploration of delusion formation of an individual suffering from paranoid type schizophrenic symptoms, and the session outcome, which was assessed (through pre-and post-session ratings) as good or poor by measuring symptom reduction. It was hypothesized that: a) there would be more of the above in-session events in the sessions with good outcome than in those with poor outcome, and b) the in-session events would support the hypothesis for the role of anxiety in delusion formation in paranoid type schizophrenia.

Method

Six psychotherapy sessions of an individual suffering from paranoid type schizophrenic symptoms were selected and fully transcribed. A brief case history of a client named Charis (a pseudonym) is following, while certain details in his historical data have been changed in order to protect the individual's anonymity.

Charis was a 30 years old, white, well-educated (University degree in Philology and excellent fluency in five languages-including Hebrew-in addition to his Greek mother tongue), unemployed-during that period of time-, single man, exhibiting paranoid type schizophrenic symptoms. He was still living with his parents and h was the middle child between his two sisters. Charis suffered for many years-since mid adolescence-from paranoid type schizophrenic symptoms and he had been hospitalized for many times and for long time periods in psychiatric hospitals. Then, he visited Prof. J.N.N. -an experienced therapist utilizing Synthetiki psychotherapy for the treatment of psychological problems- and he was treated as an outpatient in an office setting, for more than two years. He had a 50-minute psychotherapy

session per week, which was audio recorded with Charis' permission. Standard antipsychotic pharmacotherapy was also used, as needed. During his long-term individual Synthetiki psychotherapy, Charis established a very strong therapeutic alliance with his therapist and showed compliance with the prescribed antipsychotic medication. Overall, his treatment resulted in a good therapeutic outcome and was beneficial for Charis since a significant reduction or, even, elimination of his psychotic symptoms was obtained; the client started to work for a period of time; his relationship to the other family members became better; and, finally, Charis obtained more control on his sexual behavior and developed more qualitative human and sexual contacts-a crucial factor for him and his relationship to his parents, since his sexual orientation was observed to be very risky before the beginning of Synthetiki psychotherapy and was also an issue very much involved in his delusional content.

In the sessions selected for study, the therapist and the client mainly explored the client's mechanisms of delusion formation and their content. The sessions were classified as having good or bad outcome depending on the client's self-assessments of the Symptom Checklist-90 with the modification that the client was asked to evaluate his symptoms within the time framework of the one hour before and after the session (instead of the usual "over the past week including the day" time framework) [96-99]. Particularly, three of the sessions were selected -according to the client's self-assessments in the SCL-90 administered immediately before the beginning and immediately after the completion of each session- to have good therapeutic outcome (for the session dated January 13, 1997, for the total SCL-90 score, $t=4.086$, $p<.05$; for the session dated February 3, 1997, for the total SCL-90 score, $t=3.576$, $p<.05$, and for the session dated April 8, 1997, for the total SCL-90 score, $t=3.576$, $p<.001$) and the remaining three to have poor session outcome (for the session dated March, 11, 1997, for the total SCL-90 score, $t=.104$, $p>.05$, for the session dated April 30, 1997, for the total SCL-90 score, $t=.081$, $p>.05$, and for the session dated May, 3, 1997, for the total SCL-90 score, $t=.104$, $p>.05$). **Figure 1** shows the mean scores of the pre- and post-session self-ratings in the ten factors of the SCL-90 (as presented from left to right: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, anger-hostility, phobic anxiety, paranoid ideation, psychotism, and other symptoms) for the three sessions leading to good therapeutic outcome, where almost all of his symptoms appeared to be significantly reduced or eliminated immediately after the completion of each session compared to his ratings before the session begins.

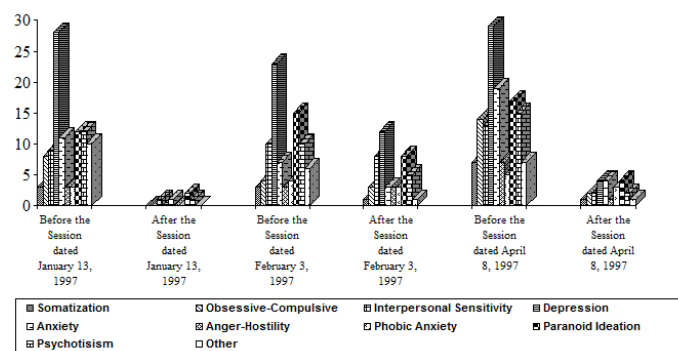


Figure 1: The three Sessions with the Good Outcome
 Session dated January 13, 1997, t -test=4.086, $df=9$, $p=.003$
 Session dated February 3, 1997, t -test=3.576, $df=9$, $p=.006$
 Session dated April 8, 1997, t -test=5.326, $df=9$, $p=.000$

In contrast, **Figure 2** illustrates Charis' self-assessments in the SCL-90 for the remaining three sessions, which lead to poor therapeutic outcome. In those sessions, Charis assessed his symptoms as remaining on the same levels -or even as slightly increasing- after the completion of each session in comparison to his ratings prior to the beginning.

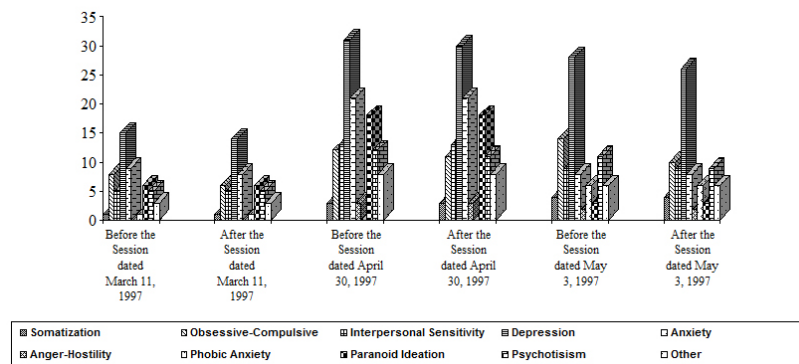


Figure 2: The three Sessions with the Poor Outcome
 Session dated March 11, 1997, $t\text{-test}=.104$, $df=9$, $p>.05$ (NS)
 Session dated April 30, 1997, $t\text{-test}=.081$, $df=9$, $p>.05$ (NS)
 Session dated May 3, 1997, $t\text{-test}=1.809$, $df=9$, $p>.05$ (NS)

Raters

Five raters were selected to locate the in-session events related to the formation of delusions using the typewritten transcripts of the six sessions and, then, to explore whether those events could be related to the mechanisms reported for the formation of delusions, utilizing a newly developed measure, the *Scale for the In-session Investigation of Delusion Formation*.

The raters had one and a half years of theoretical background and supervised clinical experience in Synthetiki psychotherapy and all of them were second-year postgraduate students at the Postgraduate Training Program in Clinical Psychology, at the Department of Psychology of the University of Crete, which provided theoretical training and clinical practice in diverse theoretical perspectives, in accordance with the contemporary view of the integrative psychotherapy movement.

Measure

Although a piece of current psychotherapy process research focuses on the study of the events that take place during a psychotherapy session, our review of the literature has not located any instrument developed for the assessment of the events located in sessions of individuals exhibiting psychotic symptoms [85]. Most of the methods provided for the assessment of psychotic symptoms include the analysis of unstructured speech of deluded individuals, structured self-report and observer ratings based on structured interviews, as well as measures that assess delusional ideation in the normal population [55, 100-103]. Thus, current research has not yet investigated what is really going on during a psychotherapy session with a person exhibiting positive and negative psychotic symptoms.

The Scale for the In-session Investigation of Delusion Formation (SInsIDF) was developed by our research team as an instrument to be used in psychotherapy process research for studying delusion formation in people suffering from positive and negative psychotic symptoms [36]. Particularly, the aim of the instrument's development was to evaluate the events that appear in a psychotherapy session and are especially related to delusion formation.

SInsIDF was developed as a result of : a) the review of the literature for the formation of delusions (33, 29, ?), b) Prof. Nestoros' long lasting (more than twenty-five years) research and clinical experience with people exhibiting positive and negative psychotic symptoms [19, 20, 24], and c) the research projects and clinical interviews conducted by our research team at the Laboratory of Clinical and Social Psychology at the Department of Psychology of the University of Crete, with these population (28, 30, 42-48, 51).

SInsIDF was constructed to include brief descriptions of the current theoretical assumptions for the formation of delusions derived from: a) the defect theories (i.e., *The delusion is a result of disturbances in perception (hallucinations, illusions), occurring in a state of extremely high levels of anxiety*), b) the psychodynamic theories, and especially Freud's theoretical speculation (i.e., *The delusion is a result of unfulfilled wishes and fantasies, occurring in a state of extremely high levels of anxiety*), c) Maher's theoretical formulation, who states that delusion is a normal reaction to abnormal experiences (i.e., *The delusion seems to be a logical explanation of extremely strange or unusual, but nevertheless real, experiences of the individual, occurring in a state of extremely high levels of anxiety*), d) the cognitive theories (i.e., *The delusion is formed by arbitrary conclusions, which are not justified by logical thoughts, occurring in a state of extremely high levels of anxiety*), and, finally, e) the five mechanisms for delusion formation, which have been proposed by our research team and are incorporated in the Synthetiki psychotherapy model (i.e., *The delusion is formed as a misinterpretation of any usual stimuli in the individual's external environment, occurring in a state of extremely high levels of anxiety; The delusion is a result of misinterpretation by the person of the changes in his/her behavior due to his/her psychological disturbances (e.g., irritation), caused by anxiety; The delusion serves the purpose of reducing the disturbing emotional state, which the person experiences; The delusion formation is explained by homo Sapiens's evolutionary process (since suspiciousness has been of great value for the preservation of our species in life-threatening situations); The delusion is related to the person's real negative life experiences during: a) childhood, b) adolescence, or c) adult life*). Particularly, SInsIDF consists of twenty-five items presented on a 7-point Likert-format scale, ranging from

“*absolutely agree*”, through “*neither agree nor disagree*”, to “*absolutely disagree*” with the presented statement. The rater is administered the scale in order to evaluate the in-session events occurred in the sessions under study.

Procedure

In order to avoid response bias, the six psychotherapy sessions were presented to the raters in a random sequence (that is, the session dated May 3, 1997 appeared first, the session dated February 3, 1997 appeared second, the session dated April 30, 1997 appeared third, the session dated April 8, 1997 appeared fourth, the session dated January 13, 1997 appeared fifth, and, finally, appeared the session dated March 11, 1997), while the raters were blind to the session outcome [104-106].

The raters were given exact directions for the accomplishment of their tasks in the study, which included: a) the location and selection of the events relevant to delusion formation for each rater-in which delusion was identified according to Oltmanns definition- and the agreement by the raters concerning the final events to be included for rating, and b) the rating procedure for each in-session event [107].

a. *Location, selection and agreement for the in-session events.* At the beginning, the raters had to read carefully -independently of each other- all the sessions under study and then to locate and select the events they judged as relevant to the exploration of delusion formation. Then, they met as a group and discussed with each other the events they located in the sessions. Afterwards, they decided which events should be finally selected in order to result in a consensus for the events, which most or all of them considered as related to the exploration of delusion formation and development. An event was included when an agreement of at least three of the five raters was obtained. Moreover, the raters also had to locate an observable starting point for each of the events, that is the marker, which is identified as the onset of the allowing and accepting event (the phenomenon of delusion formation, in our case), as well as the event’s final point, and to argue for what is going on and for the change that takes place during the event.

b. *The rating procedure.* After the selection of the events, the raters were administered the SInsIDF in order to evaluate whether each of the events was in accordance with the statements presented to the instrument. The events were presented to the raters in the same sequence that was mentioned above for the presentation of the six sessions.

Following the rating procedure of the session segments (the events), not only the amount of the particular client processes related to delusion formation was studied, but also the pattern of the client processes (the mechanisms of delusion formation) during those small session units was elicited.

Results

The raters located a total of seventeen events in all the sessions under study; ten of them were located in the sessions which lead to good outcome (particularly, four events were located in each of the sessions dated January 13, 1997 and February 3, 1997, and two events in the session dated April 8, 1997) and the remaining seven in the sessions leading to poor outcome (particularly, two events were located in each of the sessions dated March 11, 1997 and May 3, 1997 and three events in the session dated April 30, 1997). Obviously, the occurrence of the events was not found to be statistically significant for the two groups of sessions (good and poor sessions), even though a slight tendency was observed towards the direction of the good sessions.

The Pearson product-moment correlation coefficient r was performed in order to investigate whether there was any association between the mechanisms of delusion formation presented on the SInsIDF in the sessions with good and poor outcome (see **Table 1**). Strong positive correlations were found between the second and the third mechanism proposed by our research team for delusion formation, $r=.555, p<.01$; between the first mechanism proposed by our research team and the defect theories, $r=.705, p<.01$; between the first mechanism and the cognitive theories, $r=.358, p<.05$; between the second mechanism and Maher’s theory, $r=.372, p<.05$; between the third mechanism and Maher’s theory, $r=.365, p<.05$; and, finally, between the first mechanism and the psychodynamic theory/ Freud’s theory, $r=.502, p<.05$; respectively. Strong negative correlations were found between the first and the fifth mechanism of delusion formation proposed by our research team, $r=-.710, p<.01$; between the fifth and the third mechanism, $r=-.422, p<.05$; and finally, between the fifth mechanism and the defect theories proposed for the formation of delusions, $r=-.575, p<.01$, respectively. Only the fourth mechanism of delusion formation, which stated that “*delusion was initially formed as an evolutionary helpful reaction*”, was not found to have any significant correlation neither with the remaining four mechanisms proposed by our research team nor with any other hypothesis/mechanism for the understanding of delusion formation proposed by other theoretical speculations [29, 32-35, 37].

Table 1: The Pearson product-moment correlation coefficient r obtained for the associations between the mechanisms of delusion formation presented on the SInsIDF.

Variables	Pearson r								
	1	2	3	4	5	6	7	8	9
1st mechanism: The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	1.00								
2nd mechanism: The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.178	1.00							
3rd mechanism: The delusion is formed and serves as a «defense» against high levels of anxiety.	.208	.555**	1.00						

4th mechanism: The delusion is formed and serves as an evolutionary helpful to the human species reaction to anxiety.	.206	.266	.309	1.00					
5th mechanism: The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	-.710**	-.302	-.422*	-.128	1.00				
6th hypothesis: Defect Theory	.705**	.252	.226	.282	-.575**	1.00			
7th hypothesis: Cognitive Theory	.358*	-.054	-.292	.136	-.249	.306	1.00		
8th hypothesis: Maher's hypothesis stating that the delusion is a normal reaction to abnormal experiences	.021	.372*	.365*	.138	-.249	.268	.101	1.00	
9th hypothesis: Psychodynamic hypothesis / Freud's theory	.502**	-.115	.075	.251	-.132	.381*	.241	.151	1.00

* Statistical significance .05 (two-tailed)

** Statistical significance .01 (two-tailed)

Linear Regression Analysis was performed in order to obtain the size and the direction of the relationship between the changes in the patient's symptomatology in the sessions with good outcome and in the sessions with poor outcome and the raters' evaluations on the SInsIDF (the independent variable was the difference in psychopathology in the depression, anxiety, paranoid ideation and psychoticism SCL-90 subscales in the sessions with good and poor outcomes and the dependent variables were the raters' evaluations). That is, we aimed to investigate whether the raters' evaluations of the in-session events for the sessions with good and poor outcome were affected by the patient's level of psychopathological symptoms during those sessions.

Generally, a very strong relationship was found between the raters' evaluations in the SInsIDF and the changes in the patient's symptomatology in the sessions with good outcome, while medium to weak relationships observed in the sessions with poor outcome (see **Table 2**). Particularly, for the sessions leading to good outcome, very high correlations were found between the change in the patient's depression subscale and the first mechanism proposed by our research team for the understanding of delusion formation ($r=.937$), and between the change in the patient's anxiety subscale and the first mechanism ($r=.961$), the second ($r=.917$), the third

($r=.999$), and the fifth ($r=.839$). Moreover, very high correlations were found between the change in the patient's paranoid ideation subscale and the first mechanism ($r=.945$), the second ($r=.937$), and the fifth ($r=.866$), while the correlation with the third mechanism was $r=1$. Very high correlations were also found between the change in the patient's psychoticism subscale and the first mechanism ($r=.976$), the second ($r=.890$), the third ($r=.993$), and the fifth ($r=.803$). A high correlation was found between the change in the patient's depression subscale and the third mechanism of delusion formation ($r=.771$). Medium correlations were observed between the change in the patient's depression subscale and the second mechanism ($r=.50$), as well as between the change in the patient's paranoid ideation subscale and the fourth mechanism ($r=.50$), respectively. Moreover, low correlations were observed between the change in the patient's depression subscale and the fifth mechanism ($r=.350$), between the change in the patient's anxiety subscale and the fourth mechanism ($r=.454$), as well as between the change in the patient's psychoticism subscale and the fourth mechanism of delusion formation proposed by our research team ($r=.397$). Finally, there was no correlation ($r=.165$) between the change in the patient's depression subscale and the fourth mechanism stating that delusion was initially formed as an evolutionary helpful reaction.

Table 2: Linear Regression Analysis for the sessions with good and poor outcome (Independent Variable: Difference in psychopathology (SCL-90 Subscales: Depression, Anxiety, Paranoid Ideation, Psychoticism) in sessions with good and poor outcomes, Dependent Variables: Raters' evaluations on the SInsIDF)

SESSIONS WITH POOR OUTCOME	r	SESSIONS WITH GOOD OUTCOME	r
VERY HIGH CORRELATION		VERY HIGH CORRELATION	
<i>Change in the patient's Depression Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	.866	<i>Change in the patient's Depression Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.937
		<i>Change in the patient's Anxiety Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.961
		<i>Change in the patient's Anxiety Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.917

		<i>Change in the patient's Anxiety Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	.999
		<i>Change in the patient's Anxiety Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life	.839
		<i>Change in the patient's Paranoid Ideation Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.945
		<i>Change in the patient's Paranoid Ideation Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.937
		<i>Change in the patient's Paranoid Ideation Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	1
		<i>Change in the patient's Paranoid Ideation Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.866
		<i>Change in the patient's Psychoticism Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.976
		<i>Change in the patient's Psychoticism Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.890
		<i>Change in the patient's Psychoticism Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	.993
		<i>Change in the patient's Psychoticism Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.803
		HIGH CORRELATION	HIGH CORRELATION
<i>Change in the patient's Depression Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.727	<i>Change in the patient's Depression Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	.771
		MEDIUM CORRELATION	MEDIUM CORRELATION
<i>Change in the patient's Depression Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.610	<i>Change in the patient's Depression Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.50

<i>Change in the patient's Depression Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.50	<i>Change in the patient's Paranoid Ideation Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.50
<i>Change in the patient's Depression Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.50		
<i>Change in the patient's Anxiety Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.50		
<i>Change in the patient's Anxiety Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.50		
<i>Change in the patient's Anxiety Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	.655		
LOW CORRELATION		LOW CORRELATION	
<i>Change in the patient's Anxiety Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.381	<i>Change in the patient's Depression Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.350
<i>Change in the patient's Psychoticism Subscale / 1st Mechanism:</i> The delusion is formed as a misinterpretation of the external environment caused by high levels of anxiety	.317	<i>Change in the patient's Anxiety Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.454
<i>Change in the patient's Psychoticism Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.462	<i>Change in the patient's Psychoticism Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.397
NO CORRELATION		NO CORRELATION	
<i>Change in the patient's Anxiety Subscale / 2nd Mechanism:</i> The delusion is formed as a misinterpretation of somatic and psychological disturbances caused by high levels of anxiety	.231	<i>Change in the patient's Depression Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.Z	.165
<i>Change in the patient's Anxiety Subscale / 3rd Mechanism:</i> The delusion is formed and serves as a «defense» against high levels of anxiety.	0		
<i>Change in the patient's Psychoticism Subscale / 4th Mechanism:</i> The delusion was initially formed as an evolutionary helpful reaction.	.189		
<i>Change in the patient's Psychoticism Subscale / 5th Mechanism:</i> The delusion is formed as a consequence of self-fulfilling prophecies in people with very negative experiences in their real life.	.189		

As far as the sessions with poor outcome are concerned, a very high correlation ($r=.866$) was found between the change in the patient's depression subscale and the third mechanism proposed by our research team and a high correlation ($r=.727$) was found with the second mechanism of delusion formation proposed by our research team. Medium correlations were found between the change in the patient's depression subscale and the first ($r=.610$), the fourth ($r=.50$), and the fifth mechanism of delusion formation ($r=.50$). Medium correlations were also found between the change in the patient's anxiety subscale and the third ($r=.655$), the fourth ($r=.50$), as well as the fifth mechanism ($r=.50$). Low correlations were found between the change in the patient's anxiety subscale and the first mechanism ($r=.381$), and between the change in the patient's psychoticism subscale and the first mechanism ($r=.317$), as well as with the second mechanism ($r=.462$). Finally, no correlations were found between the change in the patient's anxiety subscale and the second mechanism ($r=.231$), between the change in the patient's anxiety subscale and the third mechanism ($r=0$), between the change in the patient's psychoticism subscale and the fourth mechanism ($r=.189$), as well as with the fifth mechanism ($r=.189$).

Discussion

The results of our study showed that there are not significant differences between the number of the in-session events located in the sessions with good outcome and in the sessions with poor outcome, although a slight tendency is observed in favor of the first. Interestingly, however, the number of speaking turns included by the raters in each of the events located in every good session was definitely higher in comparison with the number of speaking turns in the poor sessions. Thus, in the three good sessions: 503 out of 590 speaking turns (85.25%) were included in the four events of the session dated January 13, 1997; 181 out of 362 speaking turns (50%) were included in the four events of the session dated February 3, 1997; while 90 out of 284 (31.69%) were included in the two events of the session dated April 8, 1997. As for the poor sessions: 61 out of 418 speaking turns (14.59%) were included in the two events of the session dated March 11, 1997; 119 out of 533 speaking turns (22.32%) were included in the three events of the session dated April 30, 1997; while –interestingly- 187 out of 307 speaking turns (60.91%) were included in the two events of the session dated May 3, 1997. Considering how difficult it is to carry out a good psychotherapeutic session with an anxious delusional client, the higher number of speaking turns included in each of the events located in the good sessions reflect, in our opinion, the client's higher and, therefore, more prolonged engagement in the psychotherapeutic process, because of he was less anxious and in a manageable delusional state.

The good outcome of those sessions is, thus, logically reflecting the individual's higher investment of energy and time to explore the delusional material which in our experience always occurs when the patient is not floridly delusional. Moreover, it suggests that the concepts utilized by the specific psychotherapeutic model employed were beneficial to the client, notwithstanding the generally accepted notion that the improvement of the client by a certain type of psychotherapy does not necessarily prove that the rationale for this treatment and the scientific concepts utilized in therapy are correct (108, 109).

The poor outcome sessions contain a lower number of speaking turns in every session event, probably as a reflection of lower

therapeutic alliance accomplished in those sessions, lower client's engagement and, in general failure of the collaborating therapist-client team to remain focused on a therapeutic task long enough. In the poor (as rated by the client) session dated May 3, 1997 -where the number of speaking turns included in the events was about sixty percent of the total number of the session's speaking turns-, although enough energy and time was invested in each one of the two events, the failure could probably be explained in one or more of the following ways. Firstly, as the measurements in Figure 2 show, in all of the bad sessions there was no significant reduction in anxiety levels during the session. Thus in the bad sessions anxiety is high at the beginning and at the end of the session. In contrast in the measurements of the good sessions of Figure 1, anxiety is always rated very high at the beginning of the session and very low at the end of the session. Delusions diminish only when anxiety diminishes, in both the good and the bad sessions, suggesting that the most therapeutic element of the psychotherapy of paranoid schizophrenic patients is anxiety reduction. This is not surprising if we consider that the pharmacological treatment of paranoid schizophrenia consists of administering major (and minor) tranquilizing medication [69].

Moreover, it must be emphasized that as recent studies have demonstrated, successful individual integrative psychotherapy of schizophrenic patients leads to a significant improvement in their negative stressful family interrelating [110-113].

Strong correlations were found between four of the five mechanisms developed by the researchers to explain delusion formation and presented as statements on the SInSIDF. Moreover, strong correlations were found between those four mechanisms and the theoretical hypotheses proposed by other scientists for the formation of delusions and presented on the SInSIDF.

Nevertheless, no correlation was found between the fourth mechanism proposed for delusion formation, stating that "*delusion was initially formed as an evolutionary helpful reaction*", and the remaining mechanisms and theoretical speculations proposed for the understanding of delusion formation. Although this fourth mechanism has been considered by one of the authors as probably the most important of the five, the raters who carried out the evaluations of the study did not confirm its relevance [19, 25]. Probably, their ratings were influenced by the way the statement was presented on the SInSIDF; that is, "*Delusion formation is explained by homo Sapiens's evolutionary process*". Probably, the meaning of the above statement had not been rendered clear enough; thus, possibly, its real meaning had not been clearly understood by the raters -who were in their second year of the Masters of Science in the Clinical Psychology Postgraduate Training Program- and, therefore, had limited clinical experience. Moreover, in the six sessions under study there was almost only one occasion in which the aforementioned mechanism was discussed by the therapist and the client. The researchers have decided to change this statement and to present the mechanism in a more easily understandable way, such as that "*Delusion formation is explained by homo Sapiens' evolutionary process, since during the past five (5) million years suspiciousness, interpreting environmental stimuli as referring to him personally (ideas of reference) and threatening his life (paranoid ideas) has been of great survival value for the preservation of our species in life-threatening situations*".

According to the results obtained by Linear Regression Analysis, the evaluations of the raters in the sessions with good and poor outcome were found to be affected by the patient's psychopathological symptoms assessed by SCL-90-that is, anxiety, depression, paranoid ideation, and psychoticism; thus, they tended to strongly agree or disagree with the statements more when the client was feeling better at the end of the session. In other words, the raters' evaluations were shown as predicted by the patient's psychopathology, but the result did not imply that the relationship was causal. Particularly, results indicated that in the sessions with good outcome (where the changes in psychopathology between the pre- and post-session ratings of the individual were higher), the raters' evaluations in the SInSDF approached or reached the higher positive extremes of the proposed mechanisms for delusion formation. Thus, the raters strongly supported the mechanism for the understanding and development of delusion formation and they were characterized by a lot of confidence and agreement with the mechanism presented in the statements. In contrast, in the sessions with poor outcome (where the changes in psychopathology between the pre- and post-session ratings by the individual were very low), the raters' evaluations in the SInSDF were far away from the higher positive extremes of the proposed mechanisms for delusion formation and reached the evaluations of "more or less agreement" and "almost agreement" with the proposed mechanism. In this case, the raters tended to support less the proposed mechanism for the understanding of delusion formation and they were characterized by less confidence and agreement with the mechanism presented in the statements.

The abovementioned results of our study clearly indicated the role of anxiety in the formation of delusions in paranoid type schizophrenia, as it can also be observed in the absolute correlation between the change in the patient's paranoid ideation SCL-90 subscale and the third mechanism of delusion formation, stating that "*Delusion is formed and serves as a defense against high levels of anxiety*", in the sessions with good outcome.

One of the limitations of this study is that, from a methodological point of view, it approximates the single-case study methodology. This means that the results can be difficult to generalize to the broader clinical population [114]. Although the research design is not intended primarily for such a purpose, studies like this are aiming at showing the effectiveness of the techniques used for particular clients, in our case for the exploration of delusion formation in people exhibiting positive and negative psychotic symptoms.

More fundamentally, however, interpretation of results is limited by the fact that therapeutic interventions have both general and specific impacts on the welfare of the patients [114]. Another advantage of studying specific therapeutic processes for particular types of client problems is that measures of change, specific to these particular phenomena, can be developed. It is also worth mentioning that this kind of psychotherapy process research for people suffering from paranoid type schizophrenic symptoms is only at the beginning and a lot of things have to be done in the future.

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References

1. Beutler, L. E. (1990). Introduction to the Special Series on Advances in Psychotherapy Process Research. *Journal of Consulting and Clinical Psychology* 58: 263-264.
2. Greenberg LS, Newman FL (1996) An approach to psychotherapy change process research: introduction to the special section. *Journal of Consulting and Clinical Psychology* 64, 435-438.
3. Hill CE (1990) Exploratory in-session process research in individual psychotherapy: A review. *Journal of Consulting and Clinical Psychology* 58: 288-294.
4. Kopta SM, Lueger RJ, Saunders SM, Howard KI (1999) Individual Psychotherapy outcome and process research: Challenges Leading to Greater Turmoil or a Positive Transition? *Annual Review of Psychology* 50: 441-469.
5. Llewelyn S, Hardy G (2001) Process research in understanding and applying psychological therapies. *British Journal of Clinical Psychology* 40: 1-21.
6. Lutz W, Martinovich Z, Howard KI, Leon SC (2002) Outcomes management, expected treatment response, and severity-adjusted provider profiling in outpatient therapy. *Journal of Clinical Psychology* 58 1291-1304.
7. Marmar CR (1990) Psychotherapy process research: progress, dilemmas, and future directions. *Journal of Consulting and Clinical Psychology* 58 265-272.
8. Orlinsky DE, Grawe K, Parks BK (1994) Process and outcome in psychotherapy - noch einmal. In A. E. Bergin & S. L. Garfield (Eds), *Handbook of psychotherapy and behaviour change* (4th Ed, pp. 270-376). New York: John Wiley & Sons, Inc.
9. Russell RL (1994) *Reassessing psychotherapy research*. New York: The Guilford Press.
10. Shirk SR, Russell RL (1996) *Change processes in child psychotherapy. Revitalizing treatment and research*. New York: The Guilford Press.
11. Toukmanian SG, Rennie DL (1992) *Psychotherapy Process Research. Paradigmatic and Narrative Approaches*. London: Sage.

12. Williams EN (2002) Therapist Techniques. In G. S. Tryon (Ed), *Counseling based on process research. Applying what we know* (pp. 232-264). Boston: Allyn & Bacon.
13. Hill CE (2001) *Helping Skills*. The Empirical Foundation. Washington, DC: American Psychological Association.
14. Hill CE, Nutt EA, Jackson S (1994) Trends in Psychotherapy Process Research: Samples, Measures, Researchers, and Classic Publications. *Journal of Counseling Psychology* 41: 364-377.
15. Snyder CR, Ingram RE (2000) *Handbook of psychological change. Psychotherapy processes and practices for the 21st century*. New York: John Wiley & Sons.
16. Tryon GS (2002) *Counseling based on process research. Applying what we know*. Boston: Allyn & Bacon.
17. Dryden W (1996) Preface. In W. Dryden (Ed.), *Research in counselling and psychotherapy. Practical applications* (p. xi). London: Sage.
18. Garfield SL (1990) Issues and methods in psychotherapy process research. *Journal of Consulting and Clinical Psychology* 58: 273-280.
19. Nestoros JN (1997a) A Model of Training in the Methodology of Individual Psychotherapy Research: The Case of Schizophrenia as a Paradigm. In P. J. Hawkins & J. N. Nestoros (Eds), *Psychotherapy: New perspectives on Theory, Practice, & Research* (pp. 633-681). Athens: Ellinika Grammata Publishers.
20. Nestoros JN (1998) Research methodology in psychotherapy: Recent trends. *Psychologia*, 5, 179-188 (in greek).
21. Russell RL, Orlinsky DE (1996) Psychotherapy research in historical perspective. Implications for mental health care policy. *Archives of General Psychiatry* 53: 708-715.
22. Nestoros JN (1990) *Synthetiki Psychotherapia (Integrative Psychotherapy)*. Proceedings of the First Panhellenic Congress on Psychotherapy Theories and Techniques. Athens, Greece, pp. 1-15 (in greek).
23. Nestoros JN (1993) *In the world of psychosis*. Athens: Ellinika Grammata Publishers (in greek).
24. Nestoros JN (1997b) Integrative psychotherapy of individuals with schizophrenic symptoms. In P. J. Hawkins & J. N. Nestoros (Eds), *Psychotherapy: New perspectives on Theory, Practice, & Research* (pp. 321-363). Athens: Ellinika Grammata Publishers.
25. Nestoros JN (2001) *Synthetiki Psychotherapy: An Integrative Psychotherapy for Individuals with Schizophrenic Symptoms*. *Journal of Contemporary Psychotherapy* 31: 51-59.
26. Nestoros JN, Lampropoulos GK, Vallianatou NG (1997) *Synthetiki psychotherapia: A Greek approach to psychotherapy integration*. *Archives of the Association of Psychology and Psychiatry for Adults and Children Archives* 4: 52-74.
27. Nestoros JN, Vallianatou NG (1990/1996) *Synthetiki Psychotherapy*. Athens: Ellinika Grammata Publishers (in greek).
28. Nestoros JN, Zgantzouri KA, Lampropoulos GK (1999) Integrative psychotherapy: From theory to practice. In P. Asimakis (Ed.), *Contemporary Psychotherapies in Greece: From theory to practice* (pp. 325-378). Athens: Institute for Personal Development & University of Indianapolis Athens Press (in greek).
29. Zgantzouri KA, Nestoros JN (2002) Mechanisms involved in delusion formation. In N. Polemikos, M. Kaila, & F. Kalavasis (Eds), *Educational, Familial, and Political Psychopathology*. Vol. A.: Issues of child and adolescent psychopathology (pp. 176-196). Athens: Atrapos Publications.
30. Nestoros JN, Zgantzouri KA (2000) Pre- and post-session ratings in integrative psychotherapy of schizophrenia: A way for better understanding the mechanisms of in-session psychotherapeutic change? (Abstract book of the 13th International Symposium for the Psychological Treatment of Schizophrenia and other Psychoses. ISPS 2000, Stavanger, Norway). *Acta Psychiatrica Scandinavica, Suppl.*, 102, 17.
31. Nestoros JN, Zgantzouri KA, Vallianatou NG (2003) Relation between the post-session levels of anxiety and psychotic symptoms in integrative psychotherapy of schizophrenia. Paper presented at the 14th International Symposium for the Psychological Treatment of Schizophrenia and Other Psychoses (ISPS 2003). Melbourne, Australia. p. 46.
32. Zgantzouri KA (1999) An integrative perspective to delusion formation in schizophrenia paranoid type and schizoaffective disorder: A proposal. Paper presented at the 15th Annual Conference of the Society for the Exploration of Psychotherapy Integration. Miami, Florida, USA.
33. Zgantzouri KA (2000). *Psychotherapeutic processes in psychoses: The investigation of delusion formation in paranoid type schizophrenia and schizoaffective disorder*. Unpublished Doctoral Dissertation. Postgraduate Training Program in Clinical Psychology, Department of Psychology, School of Social Sciences, University of Crete, Greece (in greek).
34. Zgantzouri KA, Nestoros JN (1997) Psychotherapeutic processes in schizophrenia paranoid type: The role of anxiety in the development of thought disorders. Paper presented at the 1st European Conference on Psychotherapy. Athens Greece. p. 95.
35. Zgantzouri KA, Nestoros JN (1999a) Psychotherapy process research in schizophrenia paranoid type: The role of anxiety in delusion formation. Paper in panel presented at the Annual Meeting of the Society for Psychotherapy Research. Braga, Portugal.
36. Zgantzouri KA, Nestoros JN (1999b) *The Scale for the In-session Investigation of Delusion Formation*. Rethymnon: Laboratory of Clinical & Social Psychology, Department of Psychology, University of Crete, Greece.
37. Zgantzouri KA, Nestoros JN (2000a) Psychotherapy process research in schizophrenia paranoid type: The investigation of delusion formation through the evaluation of in-session events. (Abstract book of the 13th International Symposium for the Psychological Treatment of Schizophrenia and other Psychoses. ISPS 2000, Stavanger, Norway). *Acta Psychiatrica Scandinavica, Suppl* 102: 8-9.
38. Zgantzouri KA, Nestoros JN (2000b) Contributions of post-session evaluations in the course of integrative psychotherapy to an understanding of the process of change. Paper presented at the 31st Annual Meeting of the Society for Psychotherapy Research. Indian Lakes Resort, Chicago, Illinois, USA. pp. 130-131.
39. Zgantzouri KA, Vallianatou NG, Nestoros JN (2003a) The role of in-session events in the discrimination between “good” and “bad” therapy hours for individuals with schizophrenic symptoms. Paper presented at the 14th International Symposium for the Psychological Treatment of Schizophrenia and Other Psychoses (ISPS 2003). Melbourne, Australia. p 5
40. Zgantzouri KA, Vallianatou NG, Nestoros JN (2003b) Post-session evaluations of the affective environment of

- Synthetiki psychotherapy sessions of individuals with psychotic symptoms. Paper presented at the 14th International Symposium for the Psychological Treatment of Schizophrenia and Other Psychoses (ISPS 2003). Melbourne, Australia. p. 35.
41. Zgantzouri KA, Vallianatou NG, Nestoros JN (2006). Pre- and post-session ratings in integrative psychotherapy of schizophrenia: A way to better understand the mechanisms of in-session psychotherapeutic change? *Psychotherapy Research* 16: 201-213.
 42. Nestoros JN, Kalaitzaki AE, Zgantzouri KA (1997) The application of integrative psychotherapy model in individuals with schizophrenic symptoms: A research approach. Paper presented at the 6th Panhellenic Congress of Psychological Research. Athens, Greece. p. 148.
 43. Nestoros JN, Kalaitzaki AE, Zgantzouri KA, Qadamani AT (1999) The outcome of integrative psychotherapy in the treatment of schizophrenic symptoms. Paper presented at the 7th Panhellenic Congress of Psychological Research. University of Cyprus, Nicosia. p. 98.
 44. Nestoros JN, Kalaitzaki AE, Zgantzouri KA, Vallianatou NG (2003) Research evidence supporting the effectiveness of Integrative psychotherapy and the mechanisms of improvement in individuals with psychotic symptoms. Paper presented at the 14th International Symposium for the Psychological Treatment of Schizophrenia and Other Psychoses (ISPS 2003). Melbourne, Australia. p. 59.
 45. Nestoros JN, Vallianatou NG, Zgantzouri KA, Kalaitzaki AE (2001) The application of Integrative Psychotherapy for individuals with schizophrenic symptoms. Paper in panel presented at the 8th Panhellenic Congress of Psychological Research. Alexandroupolis, Greece. p. 78.
 46. Nestoros JN, Zgantzouri KA, Kalaitzaki AE, Vallianatou VG, Vasdekis VGS (1998) Integrative Psychotherapy of individuals with schizophrenic symptoms: Outcome data. Paper presented at the VI World Congress on Psychosocial Rehabilitation. Hamburg, Germany p. 140.
 47. Nestoros JN, Zgantzouri KA, Kalaitzaki AE (1999) A Greek approach to Integrative psychotherapy of individuals with schizophrenic symptoms: Outcome data. Paper presented at the 15th Annual Conference of the Society for the Exploration of Psychotherapy Integration. Miami, Florida, USA.
 48. Nestoros JN, Zgantzouri KA, Kalaitzaki AE, Vallianatou NG (2000) Integrative psychotherapy of individuals with schizophrenic symptoms: outcome data from a Greek study. (Abstract book of the 13th International Symposium for the Psychological Treatment of Schizophrenia and other Psychoses. ISPS 2000, Stavanger, Norway). *Acta Psychiatrica Scandinavica*, Suppl 102: 40.
 49. Nestoros JN (2006) Recent developments in an integrative approach of the psychotherapy of individuals suffering from schizophrenic symptoms. In E. O'Leary & M. Murphy (Eds.), *New Approaches to Integrative Psychotherapy*. (pp. 136-162). London: Brunner-Routledge.
 50. Nestoros JN (2012) *In the world of psychosis*. (Second expanded edition). Athens: Pedio Publishers (in greek).
 51. Nestoros JN, Kalaitzaki, A. E., & Zgantzouri K. A. (1999). Integrative Psychotherapy Treatment of individuals with schizophrenic symptoms: A research approach. In S. Papastamou, S. Kanellaki, A. Mantoglou, S. Samartzi, & N. Christakis (Eds), *Psychology in the crossroad of the human and social sciences* (pp. 357-374). Athens: Kastaniotis publications (in greek)
 52. Nestoros JN, Zgantzouri KA, Polemikos N (2006) Integrating the perspectives of different mental health professionals: An example of the benefits of the collaboration of a psychologist with a psychiatrist. In E. O'Leary & M. Murphy (Eds.), *New Approaches to Integrative Psychotherapy* (pp. 188-208). London: Brunner-Routledge.
 53. Bentall RP, Corcoran R, Howard R, Blackwood N, Kinderman P (2001) Persecutory delusions: A review and theoretical integration. *Clinical Psychology Review* 21: 1143-1192.
 54. Butler R, Braff D (1991) Delusions: A review and integration. *Schizophrenia Bulletin*, 17, 633-643.
 55. Garety PA, Hemsley DR (1997) Delusions: Investigations into the psychology of delusional reasoning. *Maudsley Monographs* No 36. London: Psychology Press.
 56. Hingley SM (1992) Psychological theories of delusional thinking: In search of integration. *British Journal of Medical Psychology* 65: 347-356.
 57. Winters K, Neale J (1983) Delusions and delusional thinking in psychotics. A review of the literature. *Clinical Psychology Review* 3: 227-253.
 58. Oltmanns TF, Maher BA (1988) *Delusional Beliefs*. New York: John Wiley & Sons.
 59. Dudley R, Taylor P, Wickham S, Hutton P (2016) Psychosis, Delusions and the "Jumping to Conclusions" Reasoning Bias: A Systematic Review and Meta-analysis. *Schizophrenia Bulletin* 42: 652-665.
 60. Forgas R, De Wolfe A (1974) Coding of cognitive input in delusional patients. *Journal of Abnormal Psychology* 83: 278-284.
 61. Freeman D (2007) Suspicious minds: the psychology of persecutory delusions. *Clinical Psychology Review*, 27: 425-57.
 62. Kuipers E, Garety P, Fowler D, Freeman D, Dunn G, Bebbington P (2006) Cognitive, Emotional, and Social Processes in Psychosis: Refining Cognitive Behavioral Therapy for Persistent Positive Symptoms. *Schizophrenia Bulletin*, 32: 24-31.
 63. Brockington I (1991) Factors Involved in Delusion Formation. *British Journal of Psychiatry* 159: 42-45.
 64. Maher BA (1988a). Anomalous experience and delusional thinking: The logic of explanations. In Oltmanns TF & Maher BA (Eds), *Delusional Beliefs* (pp. 15-33). New York: John Wiley & Sons.
 65. Maher BA (1988b) Delusions as the Product of Normal Cognitions. In T. F. Oltmanns & B. A. Maher (Eds), *Delusional Beliefs* (pp. 333-336). New York: Wiley.
 66. Maher BA, Ross JS (1984) Delusions. In H. E. Adams & P. B. Sutker (Eds), *Comprehensive handbook of psychopathology* (pp. 383-410). New York: Plenum Press.
 67. Roberts G(1992) The Origins of Delusion. *British Journal of Psychiatry*, 161, 298-308.
 68. Nestoros JN (1994) Schizophrenia: Contemporary scientific aspects in etiology and treatment. In M. Kaila, N. Polemikos & G. Fillipou (Eds.), *Individuals with special needs* (vol. 1, pp. 235-252). Athens: Ellinika Grammata Publishers (in greek).
 69. Nestoros JN (1980) Benzodiazepines in schizophrenia: A need for reassessment. *International Pharmacopsychiatry* 15: 171-179.
 70. Nestoros JN, Nair NPV, Pulman JR, Schwartz G (1983) High

- doses of diazepam improve neuroleptic-resistant chronic schizophrenic patients. *Psychopharmacology* 81: 42-47.
71. Nestoros JN, Suranyi-Cadotte RE, Spees RC, Schwartz G, Nair NPV (1982) Diazepam in high doses is effective in schizophrenia. *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 6: 513-516.
 72. Freud S (1911/1958) Psychoanalytic notes upon an autobiographical account of a case of paranoia (Dementia Paranoides). In J. Strachey (Ed. & Trans.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (Vol. XII, pp. 1-82). London: The Hogarth Press.
 73. Karon BP (1987a) The Treatment of Acute Schizophrenic Patients in Private Practice. *British Journal of Psychotherapy* 4: 135-140.
 74. Karon BP (1987b) Current misconceptions about psychotherapy with schizophrenics. *Dynamic Psychotherapy* 5: 3-15.
 75. Karon BP (1989) On the formation of delusions. *Psychoanalytic Psychology* 6: 169-185.
 76. Karon BP (1990) The Fear of Understanding Schizophrenia and the Avoidance of the Acutely Disturbed Student. *Journal of American College Health* 39: 61-72.
 77. Karon BP (1993) The formation of delusions. In G. Benedetti & P.M. Furlan (Eds.), *The psychotherapy of schizophrenia: effective clinical approaches-controversies, critiques and recommendations* (pp.61-67). Seattle: Hogrefe & Huber Publishers.
 78. Karon BP (2001) The fear of Understanding Schizophrenia and Iatrogenic Myths. *Journal of Contemporary Psychotherapy* 31: 15-20.
 79. Karon BP, Vanden Bos GR (1981) *Psychotherapy of schizophrenia. The treatment of choice*. New York: Aronson.
 80. Bentall RP, Kaney S (1996) Abnormalities of self-representation and persecutory delusions: a test of a cognitive model of paranoia. *Psychological Medicine* 26: 1231-1237.
 81. Bentall RP, Kaney S, Dewey ME (1991) Paranoia and social reasoning: an attribution theory analysis. *British Journal of Clinical Psychology* 27: 303-324.
 82. Lyon HM, Kaney S, Bentall RP (1994) The Defensive Function of Persecutory Delusions. Evidence from Attribution Tasks. *British Journal of Psychiatry* 164: 637-646.
 83. Chadwick P, Birchwood M, Trower P (1996) *Cognitive Therapy for Delusions, Voices and Paranoia*. Chichester: John Wiley & Sons.
 84. Chadwick P, Trower P (1996) Cognitive therapy for punishment paranoia: a single case experiment. *Behaviour Research & Therapy* 34: 351-356.
 85. Elliott R (1995) Therapy process research and clinical practice: Practical strategies. In M. Aveline & D. A. Shapiro (Eds), *Research foundations for psychotherapy practice* (pp. 49-72). Chichester: Wiley.
 86. Elliott R (1983) "That in Your Hands...". A comprehensive process analysis of a significant event in psychotherapy. *Psychiatry* 46: 113-129.
 87. Elliott R (1984) A discovery-oriented approach to significant change events in psychotherapy: Interpersonal process recall and comprehensive process analysis. In L. N. Rice and L. Greenberg (Eds), *Patterns of Change* (pp. 249-286). New York: Guilford.
 88. Elliott R, Shapiro DA (1988) Brief Structured Recall: A more efficient method for identifying and describing significant therapy events. *British Journal of Medical Psychology* 61: 141-153.
 89. Elliott R, Shapiro DA (1992) Client and Therapist as Analysts of Significant Events. In Toukmanian SG, Rennie DL (Eds), *Psychotherapy process research. Paradigmatic and Narrative Approaches* (pp. 163-186). London: Sage.
 90. Greenberg LS, Rice LN, Elliott R (1993) *Facilitating Emotional Change. The Moment-by-Moment Process*. New York: Guilford.
 91. Greenberg LS, Safran JD (1987) *Emotion in Psychotherapy*. New York: Guilford. (1987, p. 302)
 92. Mahrer AR, Nadler WP (1986) Good moments in psychotherapy: A preliminary review, a list, and some promising research avenues. *Journal of Consulting & Clinical Psychology* 54: 10-16.
 93. Rice LN, Greenberg LS (1984) *Patterns of change*. New York: Guilford.
 94. McMain S, Goldman R, Greenberg L (1996) *Resolving Unfinished Business: A Program of Study*. In W. Dryden (Ed), *Research in Counselling and Psychotherapy. Practical Applications* (pp. 211-232). London: Sage.
 95. Greenberg LS (1992) Task Analysis: Identifying Components of Intrapersonal Conflict Resolution. In Toukmanian SG & Rennie DL (Eds), *Psychotherapy Process Research. Paradigmatic and Narrative Approaches* (pp. 22-50). London: Sage.
 96. Derogatis LR (1977a) *The Symptom Checklist 90 (SCL-90) Manual-I*. Baltimore: John Hopkins University School of Medicine.
 97. Derogatis LR (1977b) *SCL-90: Administration, Scoring and Procedures Manual for the Revised Version*. Baltimore: John Hopkins University School of Medicine
 98. Derogatis LR, Lipman RS, Covi L (1973) SCL-90: An outpatient Psychiatric Rating Scale – Preliminary Report. *Psychopharmacology Bulletin* 9: 13-28.
 99. Nestoros JN, Christodoulou P, Vallianatou NG (1993) The 90-Symptom CheckList (SCL-90). Translation and adaptation into Greek. Department of Psychology & School of Medicine, University of Crete, Greece.
 100. Brett-Jones J, Garety P, Hemsley D (1987) Measuring delusional experience: A method and its application. *British Journal of Clinical Psychology* 26: 257-265.
 101. Garety P (1985) Delusions: Problems in definition and measurement. *British Journal of Medical Psychology* 58: 25-34.
 102. Garety P (1992) The assessment of symptoms and behaviour. In M. Birchwood & N. Tarrier (Eds), *Innovations in the Psychological Management of Schizophrenia* (pp. 3-20). Chichester: Wiley.
 103. Peters E, Joseph, SA, Garety PA (1999) Measurement of Delusional Ideation in the Normal Population: Introducing the PDI (Peters et al. Delusions Inventory). *Schizophrenia Bulletin* 25L: 553-576.
 104. Hill CE (1991) Almost everything you ever wanted to know about how to do process research on counseling and psychotherapy but didn't know who to ask. In C. E. Watkins & L. J. Schneider (Eds), *Research in Counseling* (pp. 85-118). Hillsdale: Lawrence Erlbaum Associates.
 105. Hoyt WT (2000) Rater bias in psychological research: When is it a problem and what can we do about it? *Psychological Methods* 5: 64-86.
 106. Hoyt WT (2002) Bias in participant ratings of psychotherapy process: An initial generalizability study. *Journal of*

-
- Counseling Psychology 49: 35-46.
107. Oltmanns TF (1988) Approaches to the definition and study of delusions. In T.F. Oltmanns & B.A. Maher (Eds), *Delusional Beliefs* (pp. 3-11). New York: John Wiley & Sons.
108. Frank JD, Frank JB (1991) *Persuasion and healing: A comparative study of psychotherapy* (3rd ed.). Baltimore: John Hopkins University Press.
109. Wampold BE (2001) *The great psychotherapy debate. Models, methods, and findings*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Pub.
110. Kalaitzaki AE, Nestoros JN (2006) Integrating individual and family therapy in improving negative interrelating within families of persons with schizophrenic symptoms. In E. O'Leary & M. Murphy (Eds.), *New Approaches to Integrative Psychotherapy*. (pp. 256-279). London: Brunner-Routledge.
111. Kalaitzaki A, Birtchnell J, Nestoros JN (2009) Interrelating within the families of young psychotherapy patients. *Clinical Psychology & Psychotherapy* 16: 199-215.
112. Kalaitzaki A, Birtchnell J, Nestoros JN (2010) Does family interrelating change over the course of individual treatment? *Clinical Psychology & Psychotherapy* 17: 463-481.
113. Nestoros J, Seliniotaki T, Vergoti A, Benioudakis M (2016) Interrelating Within the Families of Schizophrenics Before Their First Psychotic Episode. In J. Birtchnell, M. Newberry & A. Kalaitzaki (Eds), *Relating Theory: Clinical, Forensic and other Applications* (pp. 210-226). London: Palgrave MacMillan.
114. Roth A, Fogany P (1996) *What works for whom? A critical review of psychotherapy research*. New York: The Guilford Press.

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