Scandinavian Journal of Child and Adolescent Psychiatry and Psychology
Vol. 4(1):14-22 (2016) – Special Issue

Research Article **Open Access**

Continuity between Stressful Experiences and Delusion Content in Adolescents with Psychotic Disorders – A Pilot Study

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Abstract

Background: Delusions are usually considered core symptoms of schizophrenia, but they are in fact associated with a wide range of psychiatric disorders. The content of a delusion is often related to stressful life experiences that preceded the delusion.
Objective: The aim of this study is to detect whether there is a link—specifically, a thematic link—between past experiences and delusion content that connects the two events via thematic analogy.
Method: The sample population evaluated for this study consisted of 16 consecutive patients with delusions between the ages of 9.9 and 16.5 years. All patients were experiencing their first psychotic episodes and were not taking any medications. Data were obtained from transcribed clinical sessions.
Results: The data suggested the presence of a thematic link between previous experiences and the contents of delusions for 15 patients (93%). Humiliating events, including bullying, are more likely to be linked to persecutory delusions ($p = .004$).
Conclusions: If a thematic link between past experiences and delusion content does exist, this may provide a means of greater psychotherapeutic understanding.

Keywords: Psychosis; delusion; children and adolescents; bullying; paranoia

Introduction

Delusions are "fixed beliefs that are not amenable to change in light of conflicting evidence" (1), and they are a feature of schizophrenia and other psychotic disorders. In addition, delusions can be found in patients with mood disorders and in those with certain organic disorders (2, 3). Delusions were considered the hallmark of mental illness for a long time, and they have always been the subject of psychopathological debates. To define true delusions from the phenomenological perspective, Jaspers emphasized three fundamental criteria that are still considered milestones in the psychopathology of psychosis: certainty, incorrigibility, and impossibility of content (4). An essential problem of the psychopathology of delusions was Jaspers' notion of the understandability of the condition resulting from particular events or emotional conditions, how this could be characterized, and how such a distinction could be used to demarcate primary or true delusions from secondary or delusion-like ideas. In this regard, the third criterion of impossibility of content only becomes applicable in the event of a primary delusion (and thus not for secondary delusions).

The concept of *understandability* arises from Dilthey's hermeneutic method and the wider idea of *verstehen* in the German social sciences of the late nineteenth and early twentieth century, which means "interpretative understanding" and refers to experiencing another person's thoughts and emotions from the inside and being able to follow the psychic connections between mental events (5). In the field of clinical psychiatry in the last century, Kretschemer contributed to this debate by arguing for a continuum that links personality structure, experiences, and emotions to delusion onset, emphasizing that each delusion may be understandable if psychopathological analysis is investigated thoroughly enough (6). Bleuler

delineated the thematic report of a delusion with the affected person's wishes and fears and the formal report with the nuclear phenomenon of dissociation (7). Schneider introduced the term *delusional perception* as a first-rank symptom of schizophrenia (8).

From the psychodynamically informed perspective, Freud formulated the hypothesis that, in psychosis, the libidinal drives are withdrawn from object representations, and they converge regressively around fixation points. The delusion is formed through the work of the mechanisms of projection and denial. For Freud, the construction of the delusion responds to specific defensive goals; the formation of the delusion is an attempt to reconstruct a new reality that makes sense to the patient and that allows him or her to control a world that has become fragmented. The delusion would thus be organized around a fragment of reality that involves the patient's childhood experiences. When explaining paranoia, Freud outlined the role of humiliation and social defeat (9, 10). Jung suggested that impulses from the unconscious mind speak to individuals as visions or voices, and this interpretation led to a better understanding of what psychotic symptoms may be trying to tell us (11). More recently, Lucas highlighted the importance of the meaning of psychotic symptoms in the process of psychoanalytic treatment (12).

These initial observations introduced the distinction between primary delusions (those that are not understandable) and secondary delusions (those that are more related to an affective state, external events, or other psychopathological symptoms), but this discussion is still ongoing. The problem of understandability is more complex. Indeed, a link between delusion content and previous experiences or emotional conditions may often be noticed, but the nature of this link is hard to understand. This complexity arises from the meaning of the term *understandability*. Is the application of this term related to the patient's psychological history or to his or her life history? In phenomenological research, the concept of understandability is often considered, but the term has a twofold interpretation, particularly with regard to delusions. Understanding can be defined in terms of psychological history and the idea of attempting to grasp the change from the previous non-delusional state to the present delusional one. Alternatively, it can be defined more biographically in terms of the patient's life history and how the content of the delusion may be included in the frame of the patient's history. The concept of understandability remains difficult to interpret (precisely because mental illness drags the affected individual into an unusual experience) and therefore difficult to grasp. However, it is definitively the phenomenological approach that marks a turning point in this discussion through its inquiry into the understanding of forms of experience. Ratcliffe suggested that the phenomenological stance creates a kind of empathy—properly, a radical empathy—that allows for the interpretation of several changes in the structure of experience. This radical empathy is a mode of understanding via accepting different types of "finding oneself in the world," whereas other forms of empathy are accomplished through the presence of a shared backdrop of similar experience (13).

The issue of understandability is still debated, and it has been investigated in recent psychopathology research. For example, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition,* recognizes delusions as not being bizarre if they are derived from life experiences and linked by the presence of an epistemological criterion to the culture of belonging (1). The first observations of the association between previous experiences and the contents of psychotic symptoms have emerged in the fields of cognitive and social psychiatry, especially with respect to childhood sexual abuse and maltreatment.

In the context of social psychiatry, Read stated that studies have found that the content of hallucinations and delusions is frequently linked to abuse (14). Patients with a history of childhood abuse are more likely to experience positive psychotic symptoms, and the content of those symptoms could be linked at least 50% of the time with the associated traumatic experiences. In particular, it was found that hallucinations were most often associated with sexual abuse and that delusions were associated with physical abuse (15). Romme and Escher carried out important research in this field, and they have demonstrated that the hearing of voices is frequently correlated with traumatic experiences. In their sample of children who were hearing voices, they found one or more traumatic events to have occurred around the time of the onset of the voices. These traumas concerned confrontation with death, problems at home or at school, physical conditions that interfered with development, and trauma related to sexuality (including sexual abuse) (16). Escher and colleagues were also interested in delusions and in the factors that determined delusion formation in children who were hearing voices. They found that baseline stressful life events and several characteristics of voices were all related to the onset of the delusions (17).

The origins of delusions have been debated and can be summarized by two main hypotheses. According to Kraepelin, the first of these—the basic reasoning deficit hypothesis—states that a basic defect in the reasoning of deluded individuals exists and that, without this defect, no delusion would have

been created. The second hypothesis—the anomalous experience hypothesis—states that the delusion arises in an attempt to explain anomalous conscious experiences (18). A third model from the field of cognitive psychology has been recently reviewed by Garety and Freeman (19). The potential merit of this new approach is related to the study of delusions as a symptom transdiagnostically rather than as part of a particular disorder. A literature review demonstrated that the theories that underlie delusion are different but that detailed cognitive models highlight the contribution of both emotional and reasoning processes (19, 20).

Various models have implications for both theoretical and practical approaches, such as early intervention and psychotherapy (21). The roles of emotions and life experiences are strictly conceived as explanations for delusion psychopathology, and our study is part of this discussion. We started with the assumption that there is a statistically significant association between past experiences and psychotic symptom content, and we are interested in the nature of this association and in whether it is meaningful. This interest is supported by previous observations from the field of cognitive behavioral therapy, specifically that "many symptoms of psychosis have a content that can be meaningfully related to past personally significant experience" (16). Furthermore, previous work by Hardy and colleagues explored this topic in adults with hallucinations (22), and our intent is to continue on the path laid out by this and other research (17, 23-25).

We explored the hypothesis that this connection may be considered a thematic link (TL) in addition to reflecting causal or temporal aspects. A TL connects the two events via analogy and develops a biographical continuity between the two events; hence, certain elements of the content of the delusion may be influenced by the themes of previous life experiences. We used a mixed study method that was derived from both phenomenological and empirical inquiry, that emphasized the hermeneutic tradition, and that incorporated Jaspers' view of phenomenological psychopathology and his method of studying subjective experiences (26). This mixed method involves a qualitative and quantitative design that was developed to extrapolate conclusions regarding the association between life experiences and the content of a delusion. In other words, the interviewer would be able to identify similar themes when listening to narrations describing both previous experiences and the delusion itself. We studied a sample of children and adolescents to address the lack of studies of the contents of delusions in this population.

Methods

Study Design

The study design consisted of a cross-sectional evaluation of the clinical and psychopathological features of a cohort of psychotic delusional adolescent patients and focused on the content of the patients' delusions. The assessment of delusional content was made contemporaneously, and past experiences were then assessed retrospectively. Patients were enrolled at the Child and Adolescent Psychiatry Unit of the Second University of Naples from 2009 to 2012. They were consecutive patients who were experiencing their first episodes of psychosis. All subjects were referred for psychotic symptoms and diagnosed with psychotic disorders (schizophrenia/schizoaffective, psychosis not otherwise specified, delusional disorder, or affective psychosis) according to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (1). Patients were assessed with the Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime Version (27), which was administered by a child and adolescent psychiatrist who had experience with psychosis. All subjects were medication-free during the research period. The exclusion criteria were as follows: intelligence quotient of less than 70; concomitant major neurological disease; current or previous diagnosis of pervasive developmental disorder; current or previous diagnosis of substance abuse disorder; and acute suicidality. To corroborate the presence of a formal thought disorder in each patient, an Italian version of the Child Behavior Checklist (28) was obtained from parents or caregivers. The Child Behavior Checklist is a 118-item standardized questionnaire that allows for the recording of behavioral problems among children who are 6 to 18 years old, and it is widely used in clinical and research practice. We considered the Thought Problems subscale in particular.

Data Collection

Data collection occurred via three unstructured 45-minute sessions with a trained child psychiatrist for each participant. The clinicians who performed these sessions were blinded to the study design, the research aims, and the hypotheses. To enable the patients to be free to convey their spontaneous flow of thoughts, clinicians were asked not to interfere with the sessions. However, during the last session and for research purposes, clinicians were asked to directly address the patients to try to obtain information about the patients' previous experiences. The clinicians were allowed to use neutral sentences that could allow the patients to think about their pasts without invoking specific events (e.g., "Tell me something more," "What can you remember

about...?"). The sessions were performed every day and transcribed soon after they were performed. Each session was performed in the same room, which was furnished as neutrally as possible, and at the same time on each day. The sessions were not tape-recorded: a recorder could be viewed as highly persecutory by some patients, and the clinicians needed to be actively and empathically listening during the interviews.

Data Coding and Analysis

We differentiated the methodology of the data analysis as being either qualitative or quantitative; this mixed model seemed the best method to use to address the purpose of the study. With regard to the qualitative aspect of the analysis, two investigators (GC and SP) examined the recorded sessions but were blinded to each other's analyses.

First, the investigators were asked to judge whether they felt a TL existed between the patient's past experiences and the contents of his or her delusions. They were then asked to label each patient's experiences. Past events were evaluated from a dimensional point of view regarding their meaning for patients, and they were grouped according to four themes. Three of these themes were based on adapted definitions for the patient's developmental age at the time of the stressful event based on the Life Events and Difficulties Schedule (29): humiliating experiences, which included social devaluation (e.g., bullying, hypercriticism, marginalization); loss experiences, which mainly referred to the loss of a person who was important to the patient (e.g., mourning, neglect); and intrusive experiences, which involved intention to harm by others (e.g., sexual abuse, physical aggression). The last theme included was biological events (e.g., illness, pubertal changes); we included this category because pubertal development during adolescence is a complex task that is related to socialization, concerns about body image, and the onset of adjustment problems (30). For these first two tasks, we calculated Cohen's kappa to assess inter-rater reliability.

Finally, we asked the investigators to describe each patient's delusion content and type according to the Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime Version (27). All information acquired for research purposes was then corroborated through semi-structured interviews with the patients' parents or caregivers and their teachers. (31). The quantitative analysis was performed post hoc to assess the relationship between experiences and delusions. Only humiliating events and persecutory delusions were frequent enough to allow for statistical analysis, so previous experiences were dichotomized as humiliating/other, and delusions were dichotomized as persecutory/other. Any correlation between binary variables was ruled out with the use of Pearson's chi-squared test and the phi coefficient as determined by SPSS 18 software. Written informed consent was obtained from the parents or legal guardians of each patient. The study was approved by the ethical committee of the Second University of Naples and performed in accordance with the Declaration of Helsinki.

Results

Demographic Data

The final sample was composed of 16 patients (mean age, 13.4 years; standard deviation, ± 1.49 years; range, 9.9 to 16.5 years), 7 of whom were female (43%). Their diagnoses were as follows: 5, psychosis not otherwise specified (33%); 5, schizoaffective disorder (33%); 3, schizophrenia (18%); and 3, delusional disorder (18%). Seven patients (43%) had at least one comorbidity (e.g., multiple anxiety disorder, obsessive-compulsive disorder). For the Thought Problems subscale of the Child Behavior Checklist, the mean T-score was 79 ± 4.3, with all patients having scores that were higher than the clinical cutoff.

Characterization of Delusions and Life Experiences

Two patients demonstrated more than one type of delusion. The total number of delusions analyzed was 18, and they were distributed as follows: 8, persecutory (42%); 4, somatoform (21%); 2, grandeur (including sexual) (10%); 2, nihilistic (10%); 1, guilt (5%); and 1, control (5%). The total number of experiences analyzed was 18, and they were distributed as follows: 9, humiliating (52.9%); 4, loss (23.5%); 4, biological (23.5%); and 1, intrusive (5.8%). There was only one case in which neither investigator was able to link the patient's previous experiences to his or her delusion content: Patient no. 1, who had a persecutory delusion but no history of humiliating experiences. For all other cases, both investigators agreed about the presence of TLs. However, there was one case for which the two investigators did not agree about how to label the experience: Patient no. 8, who had an experience that GC labeled as humiliating and that SP labeled as biological. Inter-rater reliability between the two researchers was very good (Cohen's kappa, 0.893; 95% confidence interval, 0.687 to 1.098). Persecutory delusions were found to be significantly associated with humiliating experiences (phi coefficient, 0.7; $p = .004$), but no other statistically significant relationships were demonstrated.

TABLE 1.

Patient No.	Gender	Experience	Label	Content of Delusion	Description of Delusion
1	M	None	None	Persecutory	Believed that he was being observed and followed
2	F	She reported a high level of criticism about her body aspect and that she was being bullied at school	Humiliating	Persecutory	Believed that she was being observed when taking a shower and being marginalized because she was too thin
3	F	She reported recurring episodes in which she was constrained and forced to watch horror films at an early age and that she was teased by friends	Humiliating	Persecutory	Believed that she was being persecuted by a murderous woman in black
4	F	She saw relatives secretly administer prescribed psychotropic drugs to an ill relative	Humiliating	Persecutory	Believed that she was being given food that had been poisoned
		She experienced the severe health conditions and deaths of several close relatives	Loss	Somatoform	Believed that she had cancer and other deadly diseases
5	M	He reported marginalization, recurrent criticism, and bullying at school	Humiliating	Persecutory	Believed that he was being persecuted by unknown individuals
6	M	He experienced the severe health conditions and deaths of several close relatives	Loss	Somatoform	Believed himself to be at risk for cardiovascular and metabolic disease
7	M	He experienced the first bodily changes of puberty	Biological	Somatoform	Had a severe growth and developmental refusal, with the strong intention to keep his body infantile
8	M	He reported criticism of his smell by classmates and he experienced the first bodily changes of puberty	Humiliating and biological	Somatoform	Believed that he continuously issued an unpleasant smell
9	M	He experienced the suicide of a neighbor of the same age	Loss	Nihilistic	Had recurrent thoughts of death and believed his own death would be violent
10	M	He experienced the sudden and contentious divorce of his parents	Humiliating	Guilt	Had recurrent thoughts of neglect and a strong belief that there were monsters in his house
11	F	She reported recurrent criticism and bullying at school	Humiliating	Persecutory	Believed that she was being persecuted by unknown individuals
12	M	He suffered from severe alopecia during childhood	Biological	Control	Believed he had loose body integrity if he was not able to collect and hang up hair that he found
		He experienced the sudden death of his father	Loss	Nihilistic	Believed he was connected with the souls of the dead and that he had to help them
13	F	She reported a high level of criticism about her body aspect and that she was being bullied at school	Humiliating	Persecutory	Believed that she was being persecuted by unknown individuals
14	M	He reported marginalization, recurrent criticism, and bullying at school	Humiliating	Persecutory	Believed that he was in a dangerous environment in which his identity could be stolen and his will influenced
15	F	She experienced the first bodily changes of puberty	Biological	Grandeur	Believed herself to be sexually attractive to everyone
16	F	She experienced sexual abuse	Intrusiveness	Grandeur	Believed herself to be sexually attractive to everyone

The Thematic Link: The Elements of the Narration in the Contents of the Delusion

Demographic features of the sample population and qualitative data regarding the association between experiences and delusions, as corroborated by family members and teachers, are summarized in Table 1. Here we will describe four cases (one for each category of event) to illustrate our research on TLs.

1. A girl with schizophrenia with a complicated delusional system characterized by the extreme conviction that she was suffering from cancer also presented with a persecutory delusion, which was expressed in her absolute certainty that her meals were being poisoned. The girl had greatly reduced her food intake. One of this patient's relatives had been diagnosed with schizophrenia as a child. The girl's caregiver told us how the family had secretly given psychotropic drugs to the ill relative in meals and drinks due to the relative's poor adherence to treatment. The patient remembered these instances and described these episodes during her clinical sessions. We labeled her experience as humiliating and her delusion as persecutory.

2. A boy with psychosis not otherwise specified was referred for his eating restriction. The psychiatric examination revealed that this symptom was the result of a delusion rather than anorexic cognitions. The patient had a tenacious conviction that involved certainty and incorrigibility that he was at risk for cardiovascular and metabolic disease. His thoughts were not definitively disorganized, and he told us about his experiences involving the severe chronic illnesses and deaths of several close relatives from cancer or heart attacks. This drove him

to exclude practically all types of food because he believed them to be unhealthy. We labeled the patient's experience as loss and his delusion as persecutory.

3. A girl with psychosis not otherwise specified with a history of neglect and sexual abuse perpetrated by a relative developed a grandeur delusion (with an erotomanic background) of being courted by a mysterious man who called her at night. The girl would often sneak out of her house. We labeled her experience as intrusive and her delusion as grandeur.

4. A boy with schizophrenia also had delusions, hallucinations, thought disorganization, and bizarre behaviors. He was observed by doctors and nurses to collect his hair from any surface on which it may have fallen. He believed that it was his duty to preserve this hair. The patient's personal history was characterized by severe alopecia during childhood that had caused him to lose his hair in large quantities and repeatedly. In this case, the delusion emerged as a result of psychotic anxiety surrounding the loss of boundaries and the fragility of the psychotic self. We labeled this patient's experience as biological and his delusion as control.

Discussion

This study stimulates a discussion about the nature of delusions, and it promotes psychopathological studies in child and adolescent psychiatric populations. Studying a pediatric population could be highly effective, because these individuals are more likely to be experiencing their first episodes of psychosis and to be drug naïve. Multiple informants (e.g., parents, teachers) could also be crucial to reduce recall bias. Our data corroborate findings from previous studies that have found positive associations between early adverse experiences and the onset of psychotic symptoms (32-38). In our sample, researchers were able to identify traumatic events that occurred before the onset of psychosis in 15 patients (93.7%). These events are quite heterogeneous, but they are similar in that they were socially or emotionally threatening. Our emphasis was on the identification of TLs, and the connections found were thematic as well as causal or temporal. The causal relationship between previous stressful life experiences and delusions has been well established (14, 22, 36, 39). TLs are intended to connect an experience with a delusion via a thematic analogy.

The concept of TLs fits well into the understood structure of the positive symptoms of psychosis, and Hardy has previously described a thematic association between trauma and hallucinations (22). Authors have described a "content rating" for direct association that is based on a literal correspondence between the content of the trauma and the content of the hallucination; they have also discussed a "thematic rating" for indirect association, where the effect of the experience on the emotions and beliefs shapes the content of the hallucination (22). According to our hypothesis, when psychosis begins, patients are inclined to extend the feelings associated with certain previous experiences into their current interpretations of themselves and the world. Delusion content is not derived from unknown themes; rather, it is shaped through a progressive revision and re-signification of specific life experiences that have emotional and cognitive impact.

These assertions are supported by research that, over time, has led to a greater understanding of how the environment affects the onset of psychosis. Raune and colleagues demonstrated a relationship between either intrusive events and persecutory delusions or danger events and depressive delusions (40). Furthermore, stressful events may be considered to be non-specific triggers of delusions (39), and empirical studies have shown that certain events may specifically influence the themes of a patient's delusions (41). Other authors have proposed that psychotic symptoms have meaning for patients and that they facilitate a "making of sense" of complex feelings related to stressful experiences. Freeman and colleagues affirmed that people who underwent chronic stressful experiences could develop an hostile and dangerous interpretation of the world that in turn may lead to the onset of psychotic symptoms(42). These researchers also showed that emotions like anxiety, depression, and anger can influence psychotic symptoms, as they may represent the emotional terrain in which psychotic symptoms proliferate (43, 44).

In addition, cognitive and emotional models have been developed. Garety and colleagues conceptualized delusions as attempts to provide meaning to internal and external events; they proposed that the main features of delusions reflect internal beliefs about the self, the world, and others (45). According to this theory, depression and low self-esteem that have resulted from social exclusion may generate an individual's belief that he or she is the target of others (46). In our sample, persecutory delusions were the most common (42%). Although our sample size was small, we noted a positive association between humiliating events and persecutory delusions, which is consistent with data obtained by other studies of

adults (42, 47, 48). In our sample, bullying was the humiliating element that was most frequently described (see Table 1). More specifically, bullying was a specific event that occurred during childhood and adolescence and that could be linked to various psychopathological phenomena (49-56), psychosis onset (57-63), and paranoid beliefs (32, 64).

If we again consider the classic concept of understandability, we agree with the perspective that each delusion may ultimately be understandable if the psychopathological analysis is thorough enough (6). The TL concept is promising because it may provide clinicians with a greater awareness of the thoughts and emotions of the patient and assist with therapeutic engagement and rapport. The patient's history offers an historical understanding, whereas a psychological understanding is difficult to assess in phenomenological terms. Hence, the TL comes close to representing Jaspers' idea of understandability.

We also want to address the limitations of this study. First, the nature of the collected data is somewhat concerning; the information that we are collecting is essentially descriptive, but it has been coded so that statistical analysis can take place. To the best of our knowledge, there are only a few prior studies that are comparable to ours (22, 40), and these addressed adult populations. Thus, a proven methodology for addressing this topic in the child and adolescent population does not exist. Narrative data have been used to allow both qualitative analysis (thematic linkage) and quantitative analysis. This combined mixed-method approach allows a fine grain of data collection to be achieved and adequate attention to be paid to the richness of each participant's subjective experience. Moreover, the physicians who performed the therapeutic sessions were blinded to the purpose of the research to limit any bias with regard to data collection, and they were also blinded to each other's findings.

Second, although each event may have had more than one dimension and thus classifying each such event as having only one attribute may seem artificial, we decided to assign only one main theme to each event given the small sample size to allow for more simplicity of the analysis and linearity of the results. In fact, the small sample size used and the recruitment of patients from a single center limit the generalizability of our findings. This population was chosen to address our aim of studying a child and adolescent population that closely fulfilled the inclusion criteria (i.e., drug-free patients experiencing their first psychotic episodes).

Third, the study may suffer from recall bias due to data being collected by listening to patients with psychotic disorders. However, these data were corroborated by interviews with parents, teachers, and other caregivers. With regard to this topic, Keller and colleagues previously stated the following: "A number of studies indicate that individuals with psychotic disorders are no less likely to be accurate in recalling abusive experiences than the general population" (59). Indeed, it has to be said that the onset of psychosis was relatively recent for all of our patients, so our sample does not suffer from the "long time of disease" confounding variable that can bias data gathered from adult populations.

Clinical Significance

The TL could be a highly relevant concept in terms of early intervention, psychosocial support, and psychotherapy. It could be quite useful for providing better tailored and targeted treatments during the early stages of disease.

The findings presented here may play an important role in supporting young people who are at risk for psychosis in the area of mental health services and for psychotic patients during psychotherapy. In fact, the possibility of addressing past experiences and linking them to the content of emerging or consolidated delusions may make these experiences less frightening and more understandable. The clinical analysis of these cases should be oriented toward the issues that are shared between a patient's life experiences and the content of his or her delusions; the psychopathologist could identify these themes by listening to descriptions of both previous experiences and the delusions themselves. A thematic continuity between certain past experiences and at least some elements of delusion content could be hypothesized, and our results support this possibility. Further studies are needed to focus on the link between past experiences and the contents of delusions in child and adolescent populations, and the role of bullying in the content of psychotic symptoms needs to be further explored. In fact, this study serves to highlight the poor quality and the general lack of information regarding these topics in the child and adolescent populations.

These findings present a new way of interpreting classic psychopathology. In its definition of the term *delusion,* the recently published *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition,* included the following: "Delusions are deemed bizarre if they are clearly implausible and not understandable to some culture peers and do not derive from ordinary life experience" (1). This statement seems to explicitly accept the link between personal experience and the content of a delusion, thereby expanding the possibilities of understanding a patient's psychotic symptoms.

Acknowledgements

Gennaro Catone would like to thank the Maudsley Philosophy Group for its help in promoting his

research activity on philosophical and phenomenological aspects of delusions.

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