Chapter 2

From Vulnerability to Resilience: A Coping Related Approach to Psychosis

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Additional information is available at the end of the chapter

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Abstract

Many of us may have to face stressful events during life. How we are affected by these events depends on our vulnerability limit and our coping mechanisms. Both vulnerability-stress models and cognitive-behavioral theories of psychosis consider biological, psychological, and social factors together as determinants of our vulnerability limit. This point of view enables us to handle the psychotic disorders as a continuity of normality. In addition, coping mechanisms have an important role in the maintenance and/or recovery of psychotic symptoms. Therefore, the objective of this chapter is to summarize coping-related explanations that facilitate understanding the symptomatology of psychosis and defining the adaptive ways to challenge it.

Keywords: psychosis, stress, vulnerability, coping, cognitive-behavioral therapy

1. Introduction

In the beginning, the common idea was that the psychosis is completely different from the other disorders. But this idea has only increased the stigmatization and labeling. As a result, severe mental illnesses like psychosis and schizophrenia were categorized as "disorders which are untreatable with psychological methods." Today, models suggesting the existence of a continuity between normal beliefs, anomalous experiences, and psychotic symptoms are accepted [1]. It is well known that healthy people may also experience mild psychotic symptoms like delusions of being watched or talked about, or auditory and visual hallucinations as a result of stress, drugs, trauma, and sleep deprivation [2, 3]. These kinds of thoughts and perceptions are called as psychotic-like experiences, to the extent that they do not necessitate

getting any support or treatment [3–5]. In community, every one person of four reports at least one psychotic-like experience [3]. The rate of psychotic experiences that cause seeking treatment ranges from 3 to 8% [2, 3, 6].

The persons who are confronted with anomalous experiences and do not need to seek help are the ones who generally do not overevaluate these kinds of experiences. On the other hand, the persons who develop psychosis in the end are more anxious about and more preoccupied with their beliefs and experiences. The person searches for a meaning of this anomalous experiences and the coping process with severe anxiety lead delusions and voices [7, 8]. In addition, maladaptive-coping strategies such as avoidance or safety behaviors play a particularly important role in the maintenance of the psychotic symptoms.

In this chapter, we initially review the vulnerability-stress models and the other cognitive-behavioral explanations to psychosis. These explanations will be stated as "coping-related explanations" in the text, because they often emphasize the coping process with the anomalous experience or the interactions between internal (e.g., deprivation in self-monitoring process) and external (e.g., environment, trauma) factors. With the help of these explanations, we try to understand the development of psychotic symptoms as a continuity of normality. Then, we handle the role of maladaptive-coping strategies in the maintenance of psychotic experiences. Patients' relatives' coping strategies will also be taken into consideration due to their role in the maintenance of psychosis. We finally address the importance of developing and enhancing adaptive-coping strategies and changing irrational thinking for challenging psychosis. We also emphasize the role of social support in every stage of psychosis.

2. From vulnerability to resilience

We can conceptualize both vulnerability and resilience terms with the help of similar explanations or factors. In other words, factors that enhance or reduce resilience are similar. Resilience means the ability to protect the mental health. The sources of resilience may be psychological (personal traits, interpretation of events, etc.), biological (brain structure, genetic factors), or environmental (family interactions, community factors, etc.). Thanks to these adequate sources, the individual can cope with stressful events. On the other hand, lack of these adequate sources makes the person more vulnerable in the struggle of life. In addition, the sources of resilience can be weakened because of several factors (stressful life events, deprivation in brain structure, misinterpretations of events, etc.); thus, even a resilient person may also be more vulnerable and develop a mental illness. The terms of vulnerability and resilience should be thought in a continuum, and thus it is both possible to proceed from vulnerability to resilience and regress from resilience to vulnerability.

2.1. Coping-related explanations for psychosis

Coping-related explanations for psychosis include vulnerability-stress model of psychosis and several cognitive-behavioral explanations. These explanations often emphasize the

similarities between the normal, anomalous, and the psychotic experiences. With the aim of evaluating the psychotic symptoms in a continuum, we separately look through these explanations.

2.1.1. Vulnerability-stress model of psychosis

Vulnerability-stress model integrates the overall explanations—biological, psychological, and social factors—to explain the structure of psychosis [1, 9–14]. The vulnerability to severe illnesses can arise due to genetic predisposition, birth trauma, brain injury, viruses, and early childhood traumas like physical and interpersonal deprivations [1]. It can be said that a person who has been influenced by one or more of these factors is more vulnerable to develop a mental illness than the others who do not have such a past.

But vulnerability only defines the possibility of developing a psychiatric illness while facing stress. We all have different psychological structure and social environment, and accordingly, the stress level that we each can endure is different. Some of us have significant heritability for the psychotic disorders and the others have not [15]. For instance, the family history of psychosis can indicate the high vulnerability. The more vulnerable person is, the less stress is required for the occurrence of psychosis. According to Zubin and Spring's concept of vulnerability-stress diathesis, so long as the stress stays below the threshold of vulnerability, the individual can cope with events, but whether the stress surpasses the limit, he/she can develop a psychotic episode [16].

2.1.2. Beck's theory for delusions

The use of cognitive-behavioral theory (CBT) for psychosis is originated from Beck's theory of emotional disorders [15, 17]. Nearly 60 years ago, Beck has started to investigate the delusional system of a paranoid patient who believed that he was being watched by the members of a military unit who were working on behalf of the FBI. At the end of a 30-session treatment process, the patient recognized that his delusions were related to his own beliefs (e.g., "I am responsible of my daddy's unfavorable behaviors" and "I'm supposed to be punished due to my weaknesses") and impressed guilty in a schematic level [14, 17]. Thus, cognitive therapy was first shown as helpful for the treatment of psychotic patients [17–19].

Then, this success was supported by another case study [17]. Hole et al. [20] defined four dimensions for measuring delusions as a result of their hour-long interviews with delusional inpatients: *conviction, accommodation* (the degree to which a delusion could be modified by external events), *pervasiveness* (the percentage of the day spent ruminating about delusions), and *encapsulation* (the extent to which a decrease in pervasiveness could occur without any decrease of conviction). They decided that delusions may function as the other beliefs and may differ from them only quantitatively regarding how they can be influenced by external events [16, 20].

In his subsequent studies, Beck stated that the psychotic patients (particularly paranoids) concentrate especially on monitoring external—including social—sources on the purpose of

recognizing the potential danger. Because of being alert all the time for the potential danger, they misinterpret threat when there is none, and they suspect hostiles when there are none. This situation can be described as *externalizing bias*, the attribution of difficulties or internal events to external stimulus. They also have *internal bias*; this is the conviction that the attitudes and the feelings of others toward them cause the events. He also mentioned the *cognitive distortions* of schizophrenia. He emphasized that self-referential or persecutory content of their thoughts often cause anxiety, and sometimes sadness or depression. These distortions include *catastrophizing*, *thinking out of context* (the component of selective abstraction, overgeneralization, dichotomous thinking, jumping into conclusions), *inadequate cognitive processing*, and *categorical thinking* [17].

Beck's cognitive model suggests that genetic and experiential factors interact with *distorted internal representations* (patients' negative appraisal such as "me vs. them") which comprise *the physical and cognitive vulnerability* to psychosis. These representations are important factors which make patient vulnerable to a mental illness. Under acute and prolonged stress, these negative representations start to affect the information-process system and inhibit the patients' ability of reality testing [21].

2.1.3. The neurocognitive explanations of psychosis

According to Frith Model that explains the cognitive component of schizophrenia, there is *a deprivation in main self-monitoring process* of schizophrenic patients. Thus, they cannot differentiate the situation which results from their own actions and the external ones, so they attribute the internals to the external ones [1, 16, 21–25]. There is also *a lack of awareness of intended actions* in schizophrenic patients; this impairment might affect the sense of will and they can become isolated from their thoughts and actions [22].

Auditory hallucinations of schizophrenia are accepted to be caused by their own inner speech [22]. When the brains of people who reported hearing voices were scanned, many of the same areas of the brain were found to be active during both auditory hallucinations and inner speech [24, 26]. The psychotic patients also reported someone speaking while they were speaking. So, they tend to attribute their own voice to another person [22].

These processes would result in the attribution of internal voices or thoughts to external voices and one's own movement and speech to external causes. These misinterpretations are concluded with auditory hallucinations or thought blocking, and passivity or delusion of control, respectively [1, 16, 21–25].

2.1.4. A heuristic model

In a heuristic model of the determinants of positive psychotic symptoms, a psychotic experience is suggested as a response to a combination of internal (*inherent biological*: genetic heritability, *acquired biological*: birth trauma, *inherent psychological*: cognitive deficits, *acquired psychological*: cognitive biases, schemata) and external factors (stressors). It is stated that these factors operate via a mediating pathway (e.g., a dysfunction in the arousal system and its regulation) [27]. Consequently, the psychotic experience or persistent positive psychotic

symptoms (hallucinations/delusions) can occur. The experience of hallucinations and delusions has short-term and long-term results. Short-term results may be on emotional (anxiety, fear, anger), behavioral (belief-parallel behavior, testing the interpretations), cognitive (misinterpretation, attention to perceived threat, selective attribution), or coping basis, whereas long-term results include social withdrawal and isolation, loneliness, decreasing opportunities for reward, and social skill deficits. These results also cause maintenance of the illness [28].

2.1.5. Morrison's explanations for psychosis

The psychosis model of Morrison resembles Clark's cognitive model for panic. According to this model, the auditory hallucinations are intrusive thoughts which are externally attributed. These intrusive thoughts can be accepted as normal, but the person especially focuses his attention on these intrusions and the distress occurs when the person misunderstands and misinterprets these thoughts like "dangerous." So, this is not the intrusion, but *the interpretation* which causes distress and disability [29, 30].

The interpretation is the searching for a meaning of this experience. Its meaning depends on the interpretations of the person who heard voices whether he says, "devil is talking to me" or "this is a strange sensation, I think I am too tired" [16, 31]. The first interpretation may increase the person's distress, anxiety level, and lead the other negative emotional consequences. The person tries to find a way to cope with symptoms through maladaptive responses such as avoidance. These emotional consequences and maladaptive responses cause maintaining the symptoms [29, 30].

In fact, these are all internal experiences. Furthermore, the cycle between intrusions, interpretations of intrusions as voices, mood, body sensations, and behaviors are parallel with the idea that internal experiences are attributed to the external sources [29, 32, 33].

2.1.6. The model of Garety and colleagues for psychosis

This model involves the combination of important factors in developing and maintaining the psychosis. The principal factors are vulnerability, stress, social environment, emotional changes, cognitive dysfunction, and appraisal of the experience as external.

The authors emphasize the continuity of psychotic and nonpsychotic experiences. They suggest that *bio-psycho-social vulnerability* (it also includes cognitive and emotional vulnerability) can be triggered by the effects of the *social environment*, including stress and trauma.

They state that the interaction of vulnerability and social environment may cause some emotional changes. *Emotional changes* may include depression, anxiety, or low self-esteem.

They consider *cognitive dysfunction* very important because it can lead to anomalous experiences. Emotional changes and cognitive dysfunctions including reasoning biases lead the person to evaluate the experience as external.

The appraisal of this experience as external is influenced by reasoning and attributional biases, dysfunctional schemas of self and world, isolation, and adverse environments.

Because of this cycle, positive symptoms may occur.

The symptoms are maintained by *cognitive processes* including reasoning and attributions, dysfunctional schemas, *emotional processes,* and *appraisal of psychosis* [34, 35].

2.1.7. The classification of Kingdon and Turkington for psychosis

Kingdon and Turkington classify psychosis as a **gradual** or an **acute onset**. They categorize the gradual onset as *sensitivity psychosis* (the patient has predominant negative symptoms and the onset is adolescence) and *trauma-related psychosis* (the patient has a trauma history and the symptoms are very distressing and the content of hallucinations is about abuse). If it is acute onset, then it could be two possibilities: *anxiety psychosis* (as a response of a distressing life event, the patient becomes socially isolated, and he/she attributes their distress to an irrelevant situation actually related to their delusional system with or without hallucinations) or *drug-related psychosis* (the first attack begins with drug use and the following attacks have persisting psychotic symptoms which are the same nature and content of the initial episode). It is important to understand the type of psychosis to establish the engagement with the patient and to use the normalization rationale to explain the symptoms [15].

2.1.8. The social rank theory of auditory hallucinations

The social rank theory was generally used for depression and anxiety disorders but considering the parallel mechanisms within the scope of "attack the weaker and submit to the stronger," it was finally modified for hallucinations. Different from other cognitive theories, this theory considers *the patient's relationship with voices as well as with his significant others*. This approach uses the ABC framework. ABC model for auditory hallucinations of psychosis can be summarized as follows:

A: hallucinations (activating event),

B: beliefs including automatic thoughts, assumptions, and images about the activating event (this might not be the direct interpretation of the content of hallucination),

C: emotional and behavioral consequences (to resist, to cooperate, to attach, and to remain unresponsive).

Activating events can be categorized into three types including symptoms and internal events (e.g., hallucinations), descriptions of interactions with significant others like parents or siblings, and significant life events (diagnosis, hospitalization, and social stigma). According to this theory, the hallucinations demonstrate *a core self-perception of low social rank*, so the person perceives that he/she is in control of his/her parents or peers and community. The emotional consequences of these evaluations can be shame, humiliation, and depression. In this context, the distress and behavior are related to patients' perceived relationship with voices, their appraisal of voices power and omnipotence, as a result they evaluate the voice as benevolent or malevolent [33, 36–38].

The explanations mentioned earlier would help to understand the occurrence of psychotic episodes. The following passages will also address the maintenance of these psychotic symptoms.

2.2. The function of coping strategies for psychosis

Coping is a personal resource that an individual already possess and uses while trying to deal with an unpleasant stimulus. It comprises some mechanisms related to behavioral actions, as well as cognitive processes. As mentioned earlier, our vulnerability limit determines the stress level that we can handle. So, we can say that coping has a very close relation with vulnerability and resilience terms. Resilience protects the individual from the effects of stress, thus it is functional and adaptive. But coping responses to stress may be adaptive or maladaptive. In fact, psychotic patients often use maladaptive-coping strategies. Cognitive theories also emphasize the role of these maladaptive strategies in the maintenance of psychosis [39]. Due to their important effects, this part includes the coping strategies that the psychotic patients have already used.

In addition, a high expressed emotion term is accepted as an important factor that causes maintenance of the psychosis. The coping strategies of patients' relatives determine the expressed emotion level and style. Thus, this topic is also addressed in this part.

2.2.1. The psychotic patients' own coping strategies

Three types of psychological reaction to psychosis are suggested: *denial and lack of awareness, passive acceptance of the role of patient, acceptance of psychotic illness, and compliance to the treatment*. Neither the first one nor the second are functional because they both inhibit the treatment. The person who does not have awareness refuses the help because he/she does not believe that he/she has an illness and may gradually become more disorganized and dangerous to himself/herself and others. The second one, who passively accepts the sick role, probably abandons to try and ever loses his/her self-esteem. He/she can also develop other clinical problems, depression, and suicidal ideas. Inversely, the last one believes that he/she can learn to cope with his/her symptoms, takes medication, and is motivated to psychotherapy and can adopt the sick role when necessary [1].

According to patients' description of coping strategies with auditory hallucinations, three phases were described: startling phase in which the patients felt fear, anxiety, and desire to escape in the beginning, then investigated the meaning of voices, and do not try to escape anymore; organization phase in which many patients try to communicate with the voices; and the stabilization phase in which they start to accept the voices as part of themselves [40].

Researches about coping and psychosis show that patients generally use maladaptive-coping strategies, for example, excessive avoidance and safety behavior [41, 42]. Patients with delusions, especially persecutory delusions, often use safety behaviors to decrease the risk of danger. For this reason, they can use a number of rituals such as making hand movement or

praying to avoid the effect of evil spirits or lock themselves in the house and hide under the bed to escape from the Mafia. These safety behaviors play an important role in the maintenance of the delusions [18].

Some studies indicate that the patients' own method to cope with psychotic symptoms include both adaptive and maladaptive strategies. These strategies usually have cognitive, behavioral, physical, social, or medical components.

The results of the investigation of Falloon and Talbot [43] revealed three group strategies used to cope with auditory hallucinations: **behavior change** (e.g., speaking with people), **efforts to lower psychological arousal** (e.g., relaxation, listening to music to reduce symptoms), and **cognitive-coping methods** (e.g., listening attentively to the voices, accepting their guidance to reduce the distress, or ignoring them). They did not find any differences between females' and males' coping behaviors [15, 43].

Carr [44] assessed 200 patients and grouped 310 responses like Falloon and Talbot's study [43]. Five coping subgroups were determined. Eighty-three percent of patients used **behavior control**, 38% of them used as these coping behaviors for delusions, and 43% for hallucinations. Behavior control included *distraction involving passive diversion* such as listening to music, watching TV, or *active diversion* like writing, reading, playing a musical instrument. Using an auditory input through headphones was also found to be effective to cope with hallucinations [45]. Other types of behavior control were *physical change* involving body movement (passively; e.g., relaxation or actively; e.g., walking, swimming), *indulgence* (e.g., eating, drinking, and smoking), and *nonspecific strategies* ("I will try to do something different"). The second important subgroup was **socialization** via talking to family or friends, but social withdrawal and avoidance were also reported. Tarrier has also found and reported that these avoidant behaviors were used as a conscious-coping method [46]. **Cognitive control** was the third one, and it has its own three subgroups including *suppression of unwanted thoughts and perceptions* (I ignore the delusions, I try not to think about the voices), *shifted attention* (redirecting the attention to the neutral ideas), and *problem solving*. **Medical care** (using/changing medication, going to hospital, visiting a mental health specialist) and **symptomatic behaviors** (telling the voices to stop talking, shouting them to leave him/her alone, behaving aggressively) as the remaining subgroups were the rarely used coping strategies. The patients with delusion did not prefer passive coping strategies; they preferred to use active ones, such as problem solving [16, 44].

Cohen and Berk [47] evaluated the coping styles of 86 patients to determine which strategies were used for which symptoms. They found that patients used "*fighting back*" and "*medical strategies*" to cope with psychotic symptoms and "*prayer*" for schizophrenic thoughts [47].

Miller and colleagues [48] stated that 52% of patients that they interviewed reported positive effect (*relaxing, companionship, financial*—for example, income—*protective, self-concept*—for example, feeling attractive—*reactions of others*—for example, people are nicer—*performance*—the need to hear voices to maintain self-care, *relationships*—the need to hear voices to be close to people, *sexual*—increase in desire), whereas 94% of them commented adverse effect (*financial*—incapacity to work, *emotional distress, performance*—impairment in functioning, *reactions of others*—for example, the stigmatization, *feeling endangered or*

threatened, *relationships*, *self-concept*—feeling ugly, *loneliness*, *sexual*—decrease in desire) of auditory hallucinations. They also suggested that many of the patients that they investigated believed the voices that they heard had both adaptive and maladaptive functions; however, they would prefer not to hear voices [16, 48].

A more recent study which aimed to determine the effect of the patients' own coping strategies on psychotic symptoms suggested that *distractive coping technique* including relaxation, watching TV, conversation with others, listening to music, listening to the radio, body movement, hobbies, and thinking of other things were evaluated as passive-coping technique and the *counteraction strategies* including echoing voices, retorting or dissuading the voices, falling asleep, posture change, and making noises were active-coping strategies. They found that the patients did not prefer using distraction-coping strategies against hallucinations with delusional features [49].

Nelson and colleagues [50] examined the effect of earplugs use, subvocal counting (like 1,2,3… 1,2,3), and listening to music through a portable cassette on persistent auditory hallucination. They found that the most effective technique was subvocal counting; following this method, the patients mostly used earplugs and listening to music, respectively. The effect of these methods especially was shifting attention and reducing anxiety [50].

Ozcan and colleagues [51] investigated the coping behaviors of patients with schizophrenia and they found that most of the patients were using at least one method. The methods can be categorized as religious activities (85%), cognitive controlling (20%), changing the dose of neuroleptic drug or changing the drug itself (20%), enhancing social activities (18%), symptomatic behaviors (10%) and listening to radio, watching TV, walking around, and drug abuse (tea, smoking, alcohol).

2.2.2. The coping strategies of patient's relatives

The relatives' coping strategies with psychosis are directly related to "expressed emotion." Expressed emotion is a resistant multidimensional measure of family emotional atmospheric, through which relatives exhibit critical, hostile, and emotionally overinvolved attitudes toward a family member with mental illness [52]. Expressed emotion of relatives is especially important in the maintenance of psychosis.

There are few studies in this field, but these studies usually emphasize the relation between perceived stress, coping, and expressed emotion. A recent study showed that the relatives of inpatients with first episode psychosis experienced high levels of perceived stress, poor social support, and expressed emotion in moderate to severe levels. The relatives' perceived stress significantly predicted their expressed emotion [53].

In a study that aimed to analyze the mechanisms underlying the low expressed emotion of psychotic patients' relatives, four core themes were revealed: witnessing the distress (they spent time worrying about whether their family member would commit suicide or do something to harm themselves), empathy through acceptance and understanding (they viewed the psychosis as something that could not be prevented, they tried to understand the cause, normalized the illness, and had some idea of what was important in recovery, commented

on how the family member may have been feeling, suggesting that they were able to recognize and describe the person's emotional state), a broad range of coping strategies to reduce distress (e.g., asking for help from someone, using humor, taking time out away from stressful situations, distraction by carrying on with work and their normal routine), and realistic optimism for the future (they believe that illness would always be part of their family member's life, but they can modify their expectations from life) [54]. Another study suggested that coping through seeking emotional support, the use of religion/spirituality, active coping, acceptance, and positive reframing were associated with less distress, while coping through self-blame was associated with higher distress scores [55].

The information level of relatives about psychosis determined their cognitive view to the illness. These two factors were found to be related to stress level, expressed emotion, and patients' symptom severity. Beliefs about symptoms that "the major attributes of illness representation are oriented around" are one of the important factors of Leventhal's illness perception model by which to understand the process and outcome of distress in the relatives of patients with schizophrenia [56]. The other factors are chronicity or recurrence of the condition (time line and cyclical time line), consequences, personal control, treatment control, illness coherence, causes of the condition, and patients' emotional response to their condition [57, 58].

2.3. Challenging psychosis: developing and enhancing adaptive strategies

In order to establish a balance between vulnerability and resilience, we are able to help the patient to manage his symptoms by means of enhanced medical and psychological treatments. Enhanced coping strategies enable the patient to adaptively cope with distress and to reduce anxiety and stress level. This process can help reducing the severity of hallucinations and delusions. Patients can learn to modify their own coping strategies, or to use adaptive ones. Therefore, the first part includes adaptive-coping strategies used in the treatment of psychosis.

The patients may understand and try to improve their symptomatology with the help of cognitive conceptualization. Irrational thinking and maladaptive schemas should be handled with a collaborative approach. Stress-vulnerability logic may also be helpful to educate the patient about this conceptualization. In the second part described subsequently, these strategies are summarized.

Social support is also an important factor for psychosis in terms of its relation with coping. In the third part, the role of social support in the development and maintenance of psychosis is considered.

2.3.1. Learning to use adaptive-coping strategies for challenging psychosis

Following the success of Beck, clinicians have developed and used individual or group-based CBT programs for psychosis [1, 16, 17, 25, 26, 34, 59–63]. These programs generally included coping strategies because patients already have their own methods to reduce the distress caused by psychotic symptoms, so they can easily learn to enhance adaptive-coping mechanisms or to develop new ones.

According to CBT, hallucinations are accepted to be very similar to the symptoms of OCD. On the contrary of OCD, in hallucinations, the thoughts, images, and ideas are not attributed to the people's own mind and are attributed to the external sources. The themes are similar: violence, control, religion, and sexuality. Therefore, the strategies used for anxiety disorders are also suggested for targeting hallucinations: distraction, focusing, and anxiety reduction [39].

Distraction aims at helping patients to shift their attention to another stimulus or activity while hearing voices, in order to diminish the effect of hallucinations on the patients. It includes some strategies such as using headphone music and attentional focusing.

Focusing aims to reduce the frequency of voices and distress by means of close monitoring of experiences, listening carefully, and leading the patient toward a change in their awareness of hallucinatory experience. Unlike the attention distraction technique, the focusing technique necessitates patients to focus more on the source, nature, and content of voices for the patients to realize that the voices are not coming from the environment and can be controlled. Patients are encouraged to perform other strategies, such as arguing with or limiting the voices and changing the voice tones to funny tones.

Anxiety reduction is used in strategies like systematic desensitization. For example, in the imaginal exposure, a hierarchical list of symptoms and distress is constituted, and the patient is suggested to think only about the symptoms' content for a while. Then, he recognizes that the anxiety level decreases if he focuses on the symptoms [1, 26, 64].

2.3.2. Learning to change irrational thinking for challenging psychosis

There is some evidence that the contents of delusions reflect concerns about individual's himself and how others evaluate him. The delusions can be understood in terms of cognitive biases processing the normal beliefs. There may be extreme cognitive biases underlying extreme beliefs. Psychotic patients are seemed to miscalculate the probability of an event that may occur. In fact, they are most likely to use less information to make decisions; in other words, they jump into the conclusions. Delusions could be accepted as a response to the individual's search for meaning within his personal world [65]. To assign and understand the delusions, it is important to formulate how strongly the belief is held, the context of delusions in a person's life, how understandable the belief is, and how much the person relates the experience to himself/herself [39].

Psychotic patients catastrophically perceive the psychotic symptoms. Diagnosis or stigmatization of the others may create a traumatic effect. Thus, it is important to use a normalizing rationale and change this desperate point of view. This rationale enables the patient to apprehend that everyone has a potential to develop psychosis. Stress-vulnerability model is helpful to offer a personalized view to the patient including biological, psychological, and social explanations of how he developed vulnerable features and which stressful events triggered his vulnerable potential to develop psychosis [65].

Cognitive therapy suggests that the events do not directly determine our feelings and behaviors; our perceptions and interpretations influence how we feel and behave. All of us have some cognitive biases which also include some typical thinking errors. Dichotomous thinking

(black or white), arbitrary inference (jumping to conclusions), and selective abstraction (only focusing a little part of the overall picture) are some of the most observed thinking errors in psychosis. With the help of cognitive model, patient can understand that how he interprets the situations can affect how he feels and how he reacts that way. He also comprehends the relation between his irrational thinking and his symptomatology. Then, the patient and the therapist can collaboratively work on changing the interpretations of the problem and exploring more rational perceptions and more adaptive alternative responses [65].

There is also a link between early psycho-social stressors, dysfunctional assumptions underlying core maladaptive schemas, and the psychotic symptoms. Fowler and colleagues [1] summarized the main schematic themes for psychosis, and they categorized five schemas including *the belief that the self is extremely vulnerable to harm*—for example, "I am unsafe," *the belief that one is highly vulnerable to losing self-control*—for example, "I am dangerous to others," *the belief that the self is doomed to social isolation* "I am totally alone in the world," *the belief in inner defectiveness*—for example, "I am damaged/deficient," *the belief in strict standards*—for example, "I must perform the optimum standard in all areas at all times (schema compensation). Other core maladaptive schemas such as "I am different," "I am special," and "I am abandoned" are also effective in the development and the maintenance of the psychotic symptoms, especially of the delusions [65].

2.3.3. The role of social support for challenging psychosis

It is known that individuals with psychosis have smaller social networks and less satisfying relationships [66]. Social support is accepted as an important factor in every stage: in the development, maintenance, and recovery of psychosis.

2.3.3.1. The role of social support in the development of psychosis

Outcomes of the studies which examined the relation of positive social support/lack of social support and psychosis indicated many important results.

One of these studies in which the quantity and quality of social relationships in young adults at ultra-high-risk for psychosis were evaluated, fewer close friends, less diverse social networks, less perceived social support, poorer relationship quality with family and friends, and more loneliness were determined, and these features have been found to be related to low functioning, and also a high symptom severity [66]. Correlatively, Schuldberg and colleagues have found that high-risk individuals reported receiving significantly less positive social support from both friends and family [67]. The relationship between psychosis proneness and negative social support (e.g., hostility and criticism from others) has not been examined yet [68].

In a study that aimed to understand the gender differences between childhood physical and sexual abuse, social support and psychosis, it was suggested that especially for women with a child maltreatment history, powerful social network systems and perceptions of social support were found as important factors for resilience and against developing psychosis [69].

A study that examined the role of social support in delays between the onset of psychotic illness and initiation of an adequate treatment found that good social support was associated with a significant increase in this duration [70].

2.3.3.2. The role of social support in the maintenance and recovery of psychosis

Poor social networks may also cause more vulnerability during acute episode; therefore, psychotic symptoms can get worse and patients can continue withdrawals [69, 71]. Lack of positive social support was associated to higher levels of stress and psychopathology [68]. On the other hand, positive social support was clearly seen as a factor which motivated the individual to the use of adaptive-coping strategies [72].

Most patients often receive support from close family, as compared to friends and other relatives. In addition, schizophrenic patients find it particularly difficult to find emotional support [73], but reported the need for more emotional support, advice, and trust-based relationships [74]. Some researchers tried to quantitatively and functionally complement the patients' support network [73].

The results of the studies of social support indicate that both family and peer-based social support interventions can be used clinically to improve social support, to decrease the expressed emotion, and accordingly to positively affect the treatment process [72].

2.3.3.3. Integrating family members to cognitive-behavioral interventions for challenging psychosis

There is substantial evidence that integrating family members to psychotic patient's treatment is very helpful to reduce relapses. Techniques used in family interventions often tend to be on CBT based. They usually focus on reducing high expressed emotion and improving interpersonal environment. The key elements of these interventions are assessment and problem formulation; psychoeducation about the nature of the illness, its prognosis and treatment; and problem-solving techniques aiming to reduce conflicts and concerns, setting goals and improving interpersonal functioning [75].

3. Conclusion

The aim of this chapter was to understand the continuum between the normality and psychosis, to review the coping-related explanations and coping strategies for psychosis. It is important to understand patients' own coping mechanisms, as well as their relatives' coping strategies because of the relation between psychotic symptoms, "expressed emotion," and "social support." Studies show that most of these coping strategies used are maladaptive, thus it is important to educate patients about cognitive model and adaptive-coping strategies via cognitive-behavioral therapy.

It is remarkable that almost all cognitive explanations have a similarity with vulnerability-stress model, and they resemble each other except a few differences. The author tries to summarize all these explanations herein subsequently and show in a schematic assumption named as "a Coping Related Model for Psychosis" in **Figure 1**.

When a person with cognitive and physical vulnerability is exposed to stressful life events (e.g., low social support, environmental difficulties, or psychological traumas) which surpass his vulnerability limit, he may experience an anomalous experience. For example, he can hear a whisper

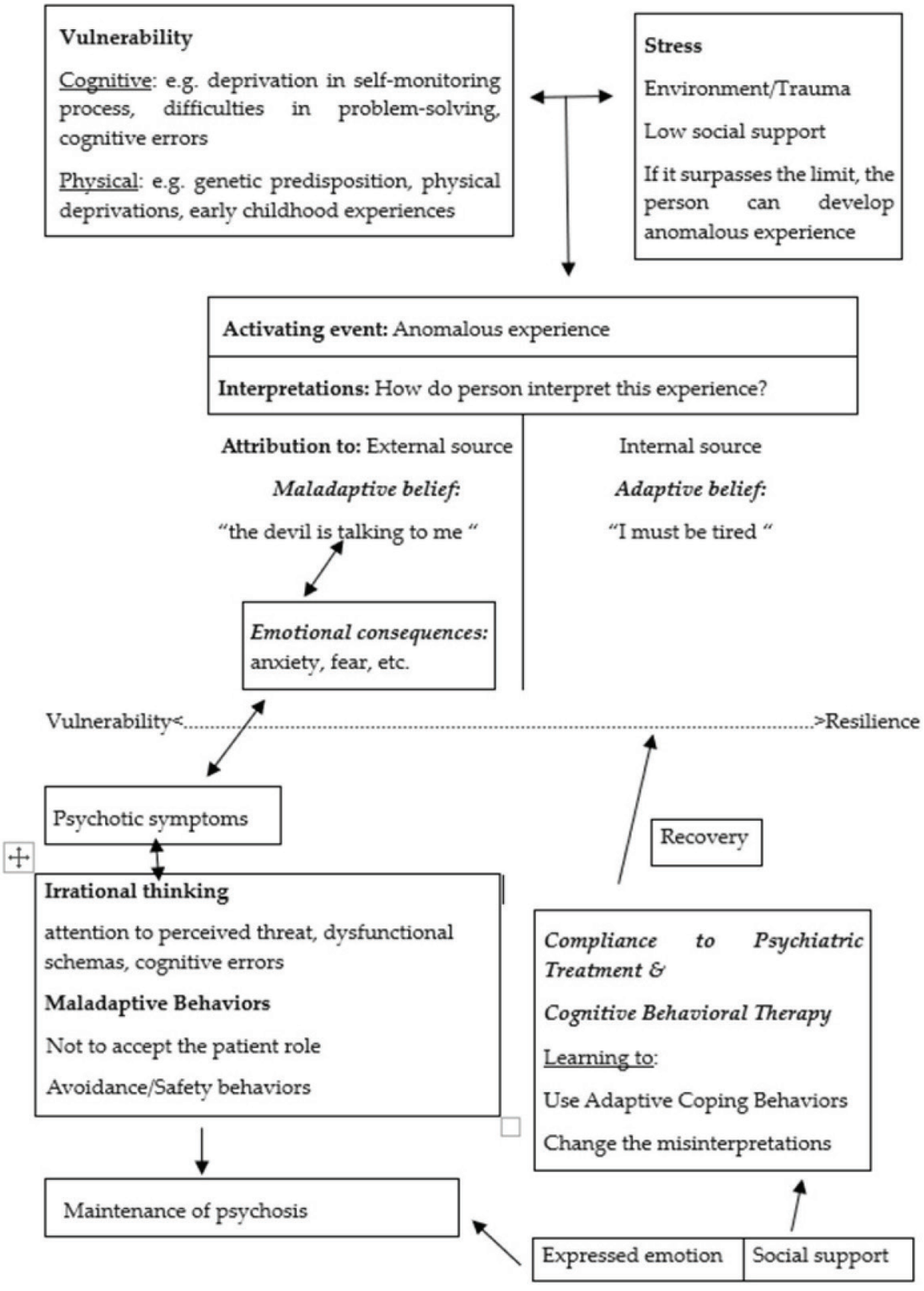

Figure 1. A coping-related model for psychosis.

or is supposed to see someone. If the person attributes this experience to an external source and interprets it such as "a talk of a Devil" instead of explaining it with an internal cause like "I must be tired," the anxiety level may increase. Because of the cognitive and emotional changes, the psychotic symptoms can occur. Once it develops, the maladaptive thinking patterns including attention to the perceived threat, dysfunctional schemas, cognitive errors, and selective attribution, or maladaptive behaviors like safety behaviors, or avoidance increase the risk of maintaining the psychotic symptoms. The individual's acceptance of the patient role, his compliance to the medical and psychological treatment, being educated about using adaptive-coping behaviors, or changing misinterpretations may help to enhance his vulnerability limit and ability to cope with stress, consequently to increase the possibility of recovery. Social support is also an important factor to decrease the potential risk of psychosis and to cope with the illness. On the contrary, a high level of expressed emotion is accepted to negatively affect the prognosis and may contribute to develop relapses. Therefore, integrating family members to cognitive-behavioral therapy program is very important in reducing expressed emotion and improving interpersonal environment.

Conflict of interest

The author confirms that there is no conflict of interest.

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