

## Negative symptoms of schizophrenia: conceptualisation and therapeutic models in a cognitive-behavioural approach

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### Abstract

This article presents cognitive-behavioural approaches to understanding and treating the negative symptoms of schizophrenia. It considers classical cognitive-behavioural models, third-wave approaches, schema therapy, and cognitive behavioural social skills training. The conceptual models and the therapeutic interventions derived from them are discussed, with particular attention to negative symptoms, which are a major source of distress and functional difficulties for many patients. The review includes approaches that directly target negative symptoms and those that may contribute to their reduction by addressing related psychological processes. Similarities and differences are outlined to provide an overview of therapeutic options for people with schizophrenia spectrum disorders. The article focuses on conceptualisation and clinical applications rather than comparative effectiveness.

**schizophrenia, negative symptoms, cognitive-behavioural therapy**

### INTRODUCTION

Schizophrenia, a term derived from the Greek for “split mind”, was described by the Swiss psychiatrist Eugen Bleuler in his 1911 monograph [1]. The condition had previously been described as dementia praecox, or early dementia. These historical terms reflect different understandings of the disorder, including disruption of thought processes and the relationships between thoughts, emotions, and behaviour [2]. According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) [3], the characteristic symptoms include delusions, hallucinations, disorganised speech, grossly disorganised or catatonic behaviour, and negative

symptoms. Diagnosis requires at least two characteristic symptoms, including at least one of the first three, during a significant part of a one-month period, or less if successfully treated. Continuous signs of disturbance must persist for at least six months and be accompanied by a decline in functioning in areas such as work, interpersonal relationships, or self-care. Other diagnostic and exclusion criteria must also be met.

The lifetime prevalence of schizophrenia reported in DSM-5 [3] is approximately 0.3–0.7%, with symptoms usually first emerging between late adolescence and 30 years of age. The course is favourable in approximately 20% of patients, and some achieve full recovery. No comprehensive epidemiological study has been conducted in Poland; estimates based on various sources suggest that approximately 400,000 people have schizophrenia [4]. National Health Fund data

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indicate 38,992 hospitalisations due to schizophrenia in 2023 [5]. A separate estimate for 2019 placed the number of adults receiving psychiatric care, including outpatient and residential care, at nearly 183,000 [6].

Schizophrenia can substantially reduce quality of life. A Polish report indicated that 72% of people with schizophrenia had lost their jobs after diagnosis, with many relying on disability benefits [7]. Unemployment can also affect social relationships and has wider economic consequences. Negative symptoms may be a greater barrier to employment than positive symptoms [7].

Many patients with schizophrenia continue to experience substantial difficulties despite pharmacological treatment [8]. Earlier accounts noted that the introduction of newer antipsychotic drugs did not resolve the challenges of long-term prognosis [9]. Maintaining meaningful social roles and experiencing less interpersonal stress have been associated with a more favourable course [9]. These observations support the inclusion of psychological interventions alongside pharmacotherapy to improve functioning and quality of life. Guidance from the National Institute for Health and Care Excellence (NICE), the American Psychiatric Association (APA), and the Polish Psychiatric Association supports psychological interventions as part of comprehensive schizophrenia care [10–12]. Such interventions are generally offered alongside pharmacological treatment [12].

Psychological therapy may be particularly relevant to negative symptoms, which often respond less well to medication than positive symptoms. Medication-related adverse effects can also contribute to secondary negative symptoms [12, 13]. The severity and persistence of negative symptoms are important prognostic indicators. Patients with predominant, persistent negative symptoms often experience poorer functional outcomes and greater treatment challenges [13].

This article provides a narrative overview of conceptualisations and therapeutic approaches addressing the negative symptoms of schizophrenia, with particular attention to their theoretical assumptions and clinical applications.

The review considers classical cognitive-behavioural therapy (CBT), including the models of Beck and Rector and of Kingdon and Turk-

ington, and third-wave approaches, including acceptance and commitment therapy (ACT), dialectical behaviour therapy (DBT), compassion-focused therapy (CFT), and mindfulness-based cognitive therapy (MBCT). It also discusses schema therapy (ST) and cognitive behavioural social skills training (CBSST), developed by Granholm, McQuaid, and Holden.

The selection focused on approaches that explicitly target negative symptoms or address psychological processes that may contribute to them. For some approaches, particularly third-wave therapies, the literature suggests possible improvements in negative symptoms even when these are not the primary treatment target. Comparative effectiveness was not examined, as it lies beyond the conceptual scope of this article.

### Negative symptoms of schizophrenia

The core negative symptoms of schizophrenia are diminished emotional expression, avolition, anhedonia, and asociality [12–15]. Diminished emotional expression, often described as blunted or flat affect, involves reduced facial expression, vocal modulation, and expressive gestures. Avolition refers to reduced speech output. Avolition involves reduced motivation to initiate and sustain goal-directed activity, whereas anhedonia concerns a reduced capacity to experience or anticipate pleasure. Asociality refers to diminished interest in social interaction. Attention difficulties may coexist with these symptoms but belong to the cognitive domain rather than the core negative symptom domains.

Negative symptoms are commonly classified as primary or secondary. Primary negative symptoms are considered intrinsic to the disorder and are often more difficult to treat [15]. Secondary negative symptoms arise in association with other factors, including distressing psychotic experiences, anxiety, depression, medication adverse effects, or adverse social circumstances. They may improve when the contributing factors are addressed [15].

Reported prevalence estimates for negative symptoms depend on the population studied, symptom definitions and duration criteria; estimates for different clinical groups are therefore not directly comparable [10, 15]. In a Pol-

ish epidemiological and social study published in 2019, Wróbel and Szulc [6] reported that, according to treating clinicians, 31% of patients receiving psychiatric care had experienced negative symptoms for at least six months. Negative symptoms are associated with poorer quality of life, impaired social functioning, and less favourable treatment outcomes. They are important predictors of functional difficulties and may remain stable or worsen over time [7, 16]. Among the four symptom dimensions examined by Cechnicki, Cichocki, and Fronczyk-Glita—negative symptoms, agitation, depressive symptoms, and positive symptoms—the negative dimension was the most consistent over time [17]. Findings reported by Häfner [18] and Mancevski and colleagues [19] also highlight the persistence of negative symptoms. In a study of Israeli male conscripts, Davidson and colleagues [20] found that premorbid difficulties in social, organisational, and intellectual functioning predicted later schizophrenia. Some of these difficulties resembled negative symptoms, although they were not equivalent to a diagnosis of a negative symptom syndrome.

The persistence of negative symptoms and their occurrence before positive symptoms are consistent with their prominence in early descriptions of schizophrenia. Both Kraepelin and Bleuler considered deficit phenomena central to the disorder. In the 1980s, Timothy Crow [21] renewed interest in negative symptoms by proposing two subtypes: type I, dominated by positive symptoms, and type II, dominated by negative symptoms. In Polish psychiatry, Tadeusz Bilikiewicz also described negative symptoms as central to the disorder [22]. These historical models support sustained clinical attention to negative symptoms and systematic monitoring of change in this domain.

### **Schizophrenia from a cognitive-behavioural perspective**

Psychotic disorders have long been a focus of cognitive approaches. Alford and Beck [23] describe the adaptability of cognitive therapy to schizophrenia and other psychotic disorders. Because cognitive therapy addresses the interpretation of experiences and the meanings attached

to them, it offers a framework for understanding distress associated with psychosis.

Cognitive models of schizophrenia draw on vulnerability–stress formulations that consider interactions between biological, social, and psychological vulnerabilities and individual stressors [8, 24]. Psychotic experiences are understood as occurring on a continuum with experiences in the general population, as do cognitive biases. Certain patterns, including heightened self-focused attention and externalising interpretations, may be more pronounced in people with schizophrenia [24]. Cognitive approaches therefore attend not only to the content of an experience but also to the meaning attributed to it [8]. Morrison and colleagues [25] illustrate this with interpretations of intrusive thoughts as thoughts inserted by an external agent, voices as messages from a malevolent source, or pressure around the head as evidence of a halo. In this account, the cultural and social acceptability of interpretations influences whether experiences are understood as psychotic [25].

Cognitive theory also proposes that hallucinations and delusions vary with context. Situational factors may increase or reduce their intensity, and their content can be understood in relation to the person's earlier experiences and beliefs [8]. Negative symptoms likewise reflect interactions between biological and psychological factors and may have a particular function in the person's life [8, 24]. Morrison [25, 26] emphasises that people experiencing psychosis may use safety behaviours similar to those seen in anxiety disorders. Although these behaviours may reduce distress in the short term, they can maintain threatening interpretations. For example, a person who believes they are being followed may repeatedly take evasive action, limiting opportunities to test that belief. A person who fears that voices will overwhelm them may shout to drown them out, without discovering whether the distress can be tolerated in other ways.

### **Conceptualisation of negative symptoms**

Cognitive models address both positive and negative symptoms. Kingdon and Turkington [27, 28] propose that psychosocial factors, as well as biological factors, may contribute to negative

symptoms. For example, reduced emotional expression may reflect learned family patterns, unprocessed traumatic experiences, or responses to abusive voices or distressing thoughts. They similarly suggest that alogia may be associated not only with cognitive difficulties but also with withdrawal in response to actual or anticipated criticism. Initially restricted to particular relationships, this withdrawal may become more generalised. Avolition may also be linked to stress-related difficulties with attention and concentration. Greater pressure to perform can impair concentration, resulting in poorer performance and discouragement. Attempts by others to increase the person's activity may unintentionally reinforce this cycle.

In Kingdon and Turkington's formulation [27, 28], behaviours associated with negative symptoms may sometimes have protective functions. Social withdrawal can reduce interpersonal stress and, in turn, the intensity of positive symptoms. Altered sleep-wake patterns may serve a similar purpose: being active while other household members are asleep, and getting up after they have left home, may reduce stressful interactions. Beck and colleagues [8] also describe secondary negative symptoms as possible responses to distress associated with positive symptoms.

Whereas Kingdon and Turkington emphasise the potentially protective function of withdrawal, Rector, Beck, and Stolar [29] place greater emphasis on avoidance as a mechanism that maintains negative symptoms. Their model identifies psychological mediators between neurocognitive or neurobiological difficulties, negative symptoms, and impaired social functioning. These mediators are primarily cognitive and may help explain why symptoms persist [8].

Rector, Beck, and Stolar's conceptualisation [29] focuses on beliefs that may maintain negative symptoms. One group concerns aversion to social contact, for example, "I am too independent to associate with other people" or "I could live alone in a cabin in the mountains or woods". Such beliefs may reinforce social withdrawal. Related attitudes have also been reported in biological relatives of people with schizophrenia [30]. Interventions addressing social withdrawal may therefore include exploring and modifying beliefs about social contact.

Defeatist beliefs about performance and self-efficacy are another potential maintenance factor [8]. A belief such as "If I cannot do something well, there is no point in doing it at all" may contribute to apathy, passivity, and avoidance.

Research discussed by Beck, Rector, and colleagues [8, 31] links negative symptoms to low expectations of pleasure, success, and acceptance. A person who does not expect an activity to be pleasurable may be less likely to engage in it, thereby losing opportunities to experience enjoyment. Similarly, beliefs such as "I will not be able to do this task" or "I will not finish this book" may reduce motivation to begin an activity.

### **Kingdon and Turkington's model for treating negative symptoms**

Kingdon and Turkington's cognitive therapy model [28] understands some negative symptoms as responses that help a person cope with an excessively stressful environment. Treatment therefore aims to reduce pressure and stress. This involves collaboratively setting modest, achievable goals and allowing recovery to proceed at a pace the person can manage, without pressuring them to undertake activities for which they do not yet feel ready.

Planning treatment requires an assessment of functioning before the onset of illness. For people who previously functioned well, time and support may help them regain their earlier level of functioning without excessive pressure. When substantial negative symptoms preceded the psychotic episode, additional interventions, such as emotional or social skills training, may be needed.

Goal setting initially focuses on improving well-being and reducing pressure. Kingdon and Turkington suggest that recovery expectations should reflect the duration of difficulties: more recent symptoms may be addressed over months, whereas longstanding difficulties may require a longer period. The guiding principle is to support recovery at the person's own pace.

### **Beck and Rector's model for treating negative symptoms**

According to Rector, Beck, and Stolar [29], treatment should begin with a thorough assessment of whether negative symptoms are primary or secondary, including the possible contribution of medication. The relationship between symptoms and environmental stimulation should also be examined. Both overstimulation, against which withdrawal may offer protection, and understimulation may be relevant. Anxiety, depression, and positive symptoms can also contribute to secondary negative symptoms. Clarifying these relationships supports the selection of appropriate interventions.

Functional assessment explores how the person understands their symptoms and which factors they recognise as increasing or reducing them. It also identifies activities they miss and the goals they would like to pursue. Subsequent therapeutic work is organised around these personally meaningful goals.

In Beck and colleagues' formulation [8], case conceptualisation examines how earlier experiences and current circumstances contribute to the emergence and persistence of difficulties. It includes hypotheses about longstanding social attitudes, negative beliefs, and patterns of avoidance or withdrawal.

Therapy begins with normalisation, using the vulnerability–stress model to explain symptoms along a continuum of human responses. The cognitive model is then introduced to illustrate links between thoughts, emotions, and behaviour. Subsequent strategies are tailored to the nature and function of the symptoms.

When withdrawal is secondary to distress associated with positive symptoms, therapy may draw on principles used in treating panic and anxiety, including gradual reduction of avoidance and supported exposure to manageable discomfort. For primary negative symptoms, interventions may include personally meaningful goal setting, behavioural activation, and planning pleasurable activities. Cognitive work explores expectations of enjoyment and beliefs about personal abilities.

Addressing stigma is also important. Cognitive techniques can help patients examine self-

stigmatising beliefs, while behavioural experiments can test predictions of rejection. Because discrimination and negative social responses may occur, therapy should also support practical strategies for coping with these experiences.

### **Conceptualisation and treatment of negative symptoms in third-wave cognitive-behavioural approaches**

Third-wave approaches generally focus on broader psychological processes rather than on symptom-specific modules. Their understanding of psychosis nevertheless has implications for negative symptoms. A central aim is to improve quality of life, including when symptoms persist. ACT emphasises living in accordance with personal values [32], while Marsha Linehan, the developer of DBT, describes building “a life worth living” [33].

Other third-wave approaches similarly emphasise processes that help people respond more flexibly to difficulties and move towards a meaningful life [34]. This focus is relevant to schizophrenia, in which motivation, emotional functioning, and engagement in everyday activities are closely related to quality of life. Negative symptom severity is strongly associated with functional outcomes [16]. Preliminary studies and reviews also suggest that some third-wave interventions may reduce negative symptoms, although the evidence varies across approaches [35–37].

### **Compassion-focused therapy (CFT)**

CFT distinguishes competitive social mentalities, organised around dominance and inferiority, from caring and compassionate ways of relating [38]. In work with psychosis, this involves developing a compassionate response to voices, delusions, memories, fears, and other emotional experiences. Making sense of psychosis in the context of a person's life is central to this approach [39]. As in Morrison's formulation, attention is paid to the impact of stigmatising explanations of psychosis. Gilbert's approach encourages an understanding of symptoms in relation to threat and attempts to cope with difficult experiences [39]. This formulation may reduce

shame and self-criticism and support self-esteem and emotional well-being. These changes could, in turn, contribute to reductions in secondary negative symptoms, although this pathway remains a hypothesis.

### **Acceptance and commitment therapy (ACT)**

ACT aims to increase willingness to experience difficult internal events while pursuing personally important values and goals [32]. In work with people experiencing psychosis, this means supporting valued activities even when positive symptoms persist [40]. Negative symptoms are relevant because reduced motivation and social engagement can restrict opportunities for values-based action [40, 41]. ACT does not primarily seek to dispute the content of psychotic experiences; it supports a different relationship with those experiences to improve well-being, functioning, and personal recovery [41]. From this perspective, becoming closely entangled with threatening thoughts or voices and trying to avoid or suppress internal experiences can increase distress and preoccupation. Therapy therefore develops psychological flexibility and the capacity to act in accordance with values. Early research suggests possible benefits for negative symptoms, but the evidence remains preliminary [42].

### **Mindfulness-based cognitive therapy (MBCT)**

MBCT was developed to change how people relate to thoughts, emotions, and bodily sensations that can contribute to recurrent depression [43].

The model distinguishes between two modes of mind: “doing” and “being”. Doing mode is activated when a person notices a discrepancy between the current situation and a desired state. This can support practical problem solving, but when the discrepancy cannot readily be resolved, repeated attempts to eliminate it may become unproductive and distressing.

Being mode involves allowing present experiences to be as they are, without immediately trying to change them. MBCT develops the ability to recognise the active mode of mind and shift towards a way of responding that does not reinforce distress.

Originally developed to prevent depressive relapse, MBCT has also been explored in psychosis [44]. Research on the broader category of mindfulness-based interventions suggests possible benefits for negative symptoms [37]. Other studies examine relationships between mindfulness, depression, anxiety, and quality of life [45]. These findings should not be taken as equivalent evidence for the effectiveness of a specific MBCT protocol.

MBCT develops concentration and awareness of thoughts, emotions, and bodily sensations; attention to the present moment; recognition of habitual reactions; acceptance; and a kind, non-judgemental attitude towards experience. It encourages letting go of unhelpful struggles and noticing how difficulties are experienced in the body, without striving to achieve a particular mental state [43].

Applications of MBCT to psychosis retain this emphasis on awareness and a less entangled relationship with thoughts and emotions, while adapting the work to participants’ needs [44]. The intended effect is to support engagement with activities that matter in the present, rather than allowing distressing internal experiences to determine all aspects of behaviour.

### **Dialectical behaviour therapy (DBT)**

DBT draws on behavioural principles, Zen practice, and dialectics [46]. It balances acceptance of the person’s current experience with support for change. Developed to address severe emotional dysregulation, comprehensive DBT includes individual therapy, group skills training, between-session telephone coaching, and a therapist consultation team. Skills training covers mindfulness, distress tolerance, interpersonal effectiveness, and emotion regulation [47]. Adaptations for psychosis draw on these skills to address emotional and interpersonal difficulties [48, 49]. Difficulties tolerating stress and distress may contribute to withdrawal from everyday activities. DBT-informed interventions may therefore help reduce avoidance by strengthening emotion regulation and coping skills, although their effects on negative symptoms require further study [50, 51].

### **Cognitive behavioural social skills training (CBSST)**

Eric Granholm, John McQuaid, and Jason Holden [52] developed CBSST by combining CBT, social skills training, and problem-solving training. The model considers several interacting influences on functioning: cognitive abilities, including attention, memory, and executive functions; social cognition, including the interpretation of emotions, intentions, and social information; practical and interpersonal skills, such as shopping, managing money, and assertive communication; motivational and emotional difficulties, including anhedonia and reduced emotional expression; and defeatist beliefs or reduced interest in social contact. Treatment aims to improve functioning by addressing these related areas.

CBSST comprises three modules: cognitive skills, social skills, and problem-solving skills. All aim to improve psychosocial functioning. The cognitive module teaches skills such as identifying cognitive distortions and examining thoughts. Social skills and problem-solving exercises build practical behavioural competences for everyday life.

Studies discussed by the developers of CBSST report improvements in negative symptoms, including reduced motivation and social withdrawal [52]. Participation has also been associated with reductions in defeatist beliefs, which cognitive models identify as potential maintenance factors.

### **Schema therapy adapted for psychosis**

Schema therapy is an integrative approach, sometimes discussed alongside third-wave therapies, for people with persistent and complex psychological difficulties. Rhodes and Vorontsova [53] have adapted it for psychosis and bipolar disorder. Developed by Jeffrey Young and colleagues [54], schema therapy addresses longstanding emotional and behavioural patterns that may not respond sufficiently to standard CBT. Its formulation emphasises unmet emotional needs and adverse childhood experiences. Rhodes and Vorontsova apply this perspective to psychosis, with particular attention to attachment and interpersonal difficulties [53].

Central concepts include early maladaptive schemas and schema modes. Mode work can be particularly useful for people with complex emotional and behavioural difficulties. Arnitz and Jacob [55] distinguish child modes, dysfunctional parent modes, coping modes, and healthy modes. Rhodes and Vorontsova [53] describe modes observed in people experiencing psychosis, including the Punitive Parent, Vulnerable Child, Angry Child, Compliant Surrenderer, and Detached Protector.

Schema therapy for psychosis draws on established techniques while adapting the pace of treatment and work with traumatic memories to the individual. It does not sharply separate interventions for positive and negative symptoms. Therapeutic work aims to provide corrective relational experiences, soothe the Vulnerable Child mode, and strengthen the Healthy Adult mode. The latter supports recognition of needs, emotional expression, and satisfying relationships. Greater felt safety and stronger personal resources could therefore contribute to reductions in negative symptoms, but this proposed mechanism requires further clinical research. Limited reparenting is particularly relevant to the therapeutic relationship [56]. Within professional boundaries, it offers experiences of responsiveness and reliability that may support greater attachment security, especially for people with histories of relational trauma.

### **SUMMARY**

Classical CBT, third-wave approaches, schema therapy, and CBSST offer varied conceptualisations and interventions for people with schizophrenia who experience persistent negative symptoms. A common feature is an attempt to understand symptoms in relation to the person's life history, current psychosocial circumstances, and coping strategies, rather than treating them as wholly separate from other human experiences.

Within these models, negative symptoms are understood not only as deficits but also, in some cases, as responses to stress, emotional overload, or unmet needs. Behaviours associated with negative symptoms may sometimes have a protective function. This perspective can support in-

dividualised formulation, better matching of interventions to needs, and less stigmatising clinical practice.

The models differ principally in their understanding of symptom function and mechanisms of change. Classical formulations by Beck and colleagues and by Kingdon and Turkington place symptoms within the person's life history but differ in their emphasis on avoidance and the pressure associated with recovery. Third-wave approaches, including ACT, CFT, DBT, and MBCT, place greater emphasis on quality of life, emotion regulation, compassion, and values-based action, including when symptoms persist.

Despite these differences, the approaches share an emphasis on individualisation, flexibility in pace, and sensitivity to emotional and interpersonal context. Variation in clinical presentation, personal resources, and needs makes it unlikely that one approach will be optimal for everyone. Overlapping theoretical assumptions may also allow clinicians to integrate selected cognitive-behavioural methods within a coherent individual formulation.

This narrative review deliberately does not assess comparative effectiveness. Its purpose is to present and compare conceptual models and their clinical implications. The strength of empirical support varies across approaches, and further research is needed to determine which interventions benefit particular patients and through which mechanisms. Understanding and treating negative symptoms therefore remain important areas for research into therapeutic processes, mechanisms of change, and the adaptation of interventions to individual needs.

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