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# Cognitive-Behavioral Treatment of Social Anxiety Disorder and Comorbid Paranoid Schizophrenia

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## Abstract

We report on the cognitive-behavioral treatment (CBT) of a patient with comorbid social anxiety disorder (SAD), schizophrenia, and major depressive disorder, complicated by alcohol abuse. Symptoms included auditory hallucinations that commented on the patient's behavior and paranoid thoughts. The paranoid symptoms affected his social interactions as this included the fear that his thoughts may be heard and judged by others. Therapeutic activities raised awareness as to how avoidance interferes with and perpetuates the cycle of depression and psychosis while maintaining symptoms of SAD. Psychoeducation was provided about factors that maintain social anxiety and increase social isolation. New skills were obtained by helping the patient discover alternative ways to view social situations, experimentation, and real-world application to disprove notions about others' predicted behavior. Treatment led to a great reduction in social anxiety, depression, and suspicious thinking. This case study demonstrates that SAD symptoms in a patient experiencing psychosis can be effectively treated using CBT.

**Keywords:** social anxiety disorder, social phobia, comorbidity, schizophrenia, therapy

## 1 Theoretical and Research Basis for Treatment

The relationship between schizophrenia and anxiety disorders, particularly social anxiety disorder (SAD), has been examined more closely in the literature in recent decades. Meta-analytical results indicate that about 14.9% of those with schizophrenia have SAD (Achim et al., 2009), and this comorbidity is associated with lower subjective quality of life, lower levels of employment, and higher levels of paranoia (Kumazaki et al., 2012; Lysaker et al., 2010). Despite their frequent co-occurrence, few studies have examined the efficacy of treating SAD among individuals with schizophrenia. Cognitive-behavioral treatment (CBT) for SAD has demonstrated effectiveness (Hofmann & Smits, 2008), and central treatment components include

developing a cognitive-behavioral conceptualization of SAD with the patient, cognitive restructuring, and exposure to social situations. However, it is typical for individuals with psychosis to be excluded from clinical trials testing CBT for SAD. As a result, the treatment has been largely tested among non-psychotic participants, and it has not been clearly established that the treatment is effective among those with psychosis.

Although no individually delivered treatments for SAD have been systematically tested among individuals with schizophrenia spectrum disorders, at least two small trials have examined group treatments. Halperin, Nathan, Drummond, and Castle (2000) randomly assigned 20 individuals with schizophrenia and comorbid SAD to 6 weeks of group CBT for SAD or wait-list control. The group treatment involved exposure, cognitive restructuring, and homework assignments between sessions. Results demonstrated significant improvement in symptoms of social anxiety, depression, and quality of life. Using a similar treatment model, Kingsep, Nathan, and Castle (2003) randomly assigned 33 individuals with schizophrenia and comorbid SAD to 12 weeks of group CBT for SAD. In addition to replicating the results of the previous study, improvements were maintained at 2-month follow-up. It should be noted that in both studies, treatment was adapted to be appropriate to the population by using methods to increase engagement and rapport, increase task specificity, and progress at a slower pace. In addition, based on the study outcome measures, participants remained highly symptomatic post-treatment.

Although the two previously described studies provide an overview of the components and structure of SAD treatment for those with schizophrenia, the nature of the published reports prevents examination of the challenging clinical issues present in this population. Individuals with schizophrenia demonstrate unique impairments (e.g., in social cognition) that are uncommon in the non-psychotic population for which the treatment was originally designed and validated. In addition, it is hard to generalize group treatment findings to individual treatment as people with the most severe SAD are generally unwilling to consider group treatment due to the nature of their fears. Thus, participants in group therapy may be higher functioning in general. Unfortunately, case studies that have addressed this topic in more depth have been limited to brief reports that have not described in detail the course of treatment (e.g., Tully & Edwards, 2009). Because of the unique issues that present among this population when conducting CBT for SAD, it is expected that the following detailed description of the successful individual treatment of SAD symptoms in a patient presenting with comorbid SAD and schizophrenia may benefit clinicians attempting to provide similar treatment.

## **2 Case Introduction**

Brian (pseudonym) was a 22-year-old non-Hispanic White man who was referred to the University of Pennsylvania's Center for the Treatment and Study of Anxiety (CTSA) by his psychiatrist. He was taking several medications for symptoms of psychosis and depression: Trazodone (100 mg), Effexor (300 mg), Topamax (100 mg), Lamictal (200 mg), Risperdal (4 mg), and an unidentified benzodiazepine.

Brian reported that these symptoms had been significantly reduced and had become manageable. However, he described severe social anxiety that was distressing and interfered with his daily functioning. Brian reported that previously, it was his psychosis that prevented him from completing college or maintaining full-time employment. However, now that these symptoms were wellmanaged, he attributed his inability to resume college or establish employment to social anxiety. He also reported depression and difficulty concentrating that interfered with his functioning.

## **3 Presenting Complaints**

At the initial evaluation, Brian reported difficulty in a number of social situations, including interacting in small and large groups of people, introducing himself to others (especially

women), having conversations with unfamiliar people, taking public transportation, and going to restaurants and movie theaters. He feared that he would do something stupid and that others would find him weird and would tease him. In addition, Brian feared that others would hear his thoughts, which he described as “crazy.” Because he had been avoiding social interactions, he believed that his social skills were weak and that he lacked appropriate social boundaries, which he feared would lead him to say something inappropriate.

Brian reported that when he did engage in social situations, he experienced a high level of anticipatory anxiety and worried about how he would appear to others. Specifically, he was concerned that people would stare at him, that he would babble or speak incoherently, and that others would subsequently consider him incompetent and reject him. Brian reported focusing almost entirely inwardly during social situations and frequently ruminated about his performance after engaging in feared social situations.

In addition to SAD, Brian reported frequent auditory hallucinations (i.e., voices that commented on his behavior) and paranoid thoughts but was generally able to recognize these as psychotic symptoms. He denied visual hallucinations and did not demonstrate disorganized speech, grossly disorganized or catatonic behavior, or prominent negative symptoms. Brian also met criteria for major depressive disorder (MDD). His main depressive symptoms included feeling fidgety and restless, decreased energy, and difficulty concentrating. He reported having symptoms for the vast majority of the past 5 years. These symptoms resulted in considerable disability as Brian was not able to work or attend school. The main barrier to enrolling school was his fears about what others would think of him. He worried that students would judge him and be able to hear his thoughts and that the professors would think he was unintelligent. The possibility of being called upon or being required to give an oral presentation in class were also major sources of anxiety.

#### **4 History**

Brian was raised in an upper-middle-class family in a metropolitan area in Delaware with an older sibling. Brian reported that he had experienced symptoms of SAD since early childhood. At age 17, he started having auditory hallucinations. He attempted to commit suicide by overdosing on drugs at age 18 and was subsequently hospitalized and diagnosed with MDD with psychotic features. At age 20, Brian was diagnosed with schizoaffective disorder by a different mental health provider. He continued to be hospitalized for suicide attempts and suicidal ideation 5 times after his initial hospitalization, and he completed a 12-step treatment program for alcohol abuse. Brian had been diagnosed with schizoaffective disorder and attention deficit hyperactivity disorder (ADHD) by his prescribing physician.

#### **5 Assessment**

Brian's symptoms of social anxiety, depression, and psychosis were assessed with clinician administered and self-report measures, which included the following:

##### ***Mini International Neuropsychiatric Interview (MINI)***

The MINI (Sheehan et al., 1998) is a structured clinical interview used to assess the most common psychiatric disorders and has excellent psychometric properties, including strong convergent validity with other structured clinical interviews.

##### ***Liebowitz Social Anxiety Scale (LSAS)***

The LSAS (Liebowitz, 1987) is a 24-item clinician-administered measure, in which clinicians ask respondents to rate both fear and avoidance on a 0 (*none*) to 4 (*extreme*) scales.

Regularly used in treatment outcome research for SAD, the LSAS has demonstrated good psychometric properties (Baker, Heinrichs, Kim, & Hofmann, 2002). Mennin et al. (2002) suggested cutoff scores of >30 for social phobia, and >60 for generalized social phobia.

### **Beck Depression Inventory (BDI)**

The BDI (Beck, Steer, & Garbin, 1988) is a 21-item self-report scale that assesses the severity of affective, cognitive, and physiological components of depression. Total scores of 10 or less are considered normal, while scores of 20 or greater suggest clinical depression. The BDI has excellent reliability and validity and is utilized frequently in treatment outcome research.

### **Social Phobia Inventory (SPIN)**

The SPIN (Connor et al., 2000) is a 17-item self-report scale that assesses fear, avoidance, and physiological arousal associated with SAD. Items address a range of social interactions, fears of embarrassment, and discomfort with physical symptoms of social anxiety. Higher scores indicate a greater level of symptom severity, and a cutoff score of 19 has been demonstrated to distinguish between individuals with SAD and non-anxious controls 79% of the time (Connor et al., 2000). The SPIN has been tested in clinical and non-clinical samples and has been found to have sound psychometric properties (Connor et al., 2000).

### **Social Phobia Weekly Summary Scale (SPWSS)**

The SPWSS (Clark et al., 2003) is a six-item self-report scale that measures social anxiety symptom severity, including self-focus in feared social situations. Items responses range from 0 (*entirely externally focused*) to 8 (*entirely self-focused*), and total scores are calculated by obtaining a mean of all items. Internal consistency of the SPWSS is good ( $\alpha = .81$ ). Although no data have been published regarding suggested cutoff scores for the SPWSS, a clinical trial indicated that individuals effectively treated for SAD with individual cognitive therapy had a baseline mean score of 5.4 ( $SD = 1.7$ ) and a post-treatment mean score of 2.7 ( $SD = 2.3$ ; Mortberg, Clark, Sundin, & Aberg Wistedt, 2007).

### **Inventory of Hostility and Suspiciousness (IHS)**

The IHS (Huppert, Smith, & Apfeldorf, 2002) is a 19-item measure of psychotic thinking/paranoia. Item ratings are converted into a Likert-type scale ranging from 0 (*not at all characteristic of me*) to 4 (*extremely characteristic of me*). Items are summed for a total score, with higher numbers indicating greater psychopathology. The overall internal consistency of the measure is excellent ( $\alpha = .98$  for anxious outpatients;  $\alpha = .85$  for schizophrenia patients; Huppert et al., 2002). IHS means are 25.72 ( $SD = 21.39$ ) for outpatients and 21.13 ( $SD = 11.33$ ) for students (E. Buckner, Keen, Tellawi, & Williams, 2013).

### **Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q)**

This is a 16-item, self-rated measure of physical health, subjective feelings, leisure activities, social relationships, general activities, satisfaction with medications, and life satisfaction domains (Endicott, Nee, Harrison, & Blumenthal, 1993). Each item is scored on a 5-point Likert-type scale (1 = *very poor* to 5 = *very good*). The Q-LES-Q has demonstrated strong internal consistency and construct validity for individuals with SAD and severe mental illness (Ritsner, Kurs, Gibel, Ratner, & Endicott, 2005; Sung et al., 2012). A pre-to post-treatment decrease of at

least 6.8% has been suggested as a minimum responder threshold (Harnam, Wyrwich, Revicki, Locklear, & Endicott, 2011).

### **Subjective Units of Distress Scale (SUDS)**

The SUDS (Wolpe, 1969) is an important procedural element in behavior therapy to assess the subjective experience of anxiety, and the SUDS since been incorporated into many treatment protocols for anxiety disorders. It is a simple method that enables clinicians to anchor patients' self-rated distress in various anxiety-provoking situations at baseline, monitor changes, and to evaluate the progress of therapy. Situations can be ranked from least to greatest amount of anxiety as measured by the patient's reported SUDS, 0 (*no anxiety, calm*) to 100 (*very severe anxiety, worst ever experienced*).

Brian was first administered the MINI, which indicated a diagnosis of schizophrenia, rather than schizoaffective disorder, as originally reported by the patient. Brian's total LSAS score was 129 at pre-treatment, which is indicative of severe social anxiety symptoms. He also exhibited intense paranoia of others hearing his thoughts and passing judgment on him; hence, he often avoided situations that elicited these feelings. He reported that he would rather stay at home than experience the rush of intense fear. Consequently, Brian developed safety behaviors to mitigate the intensity of the anxiety and avoided or escaped early from various social activities (e.g., restaurants, movie theaters, concerts, classes). In addition to anxiety-related symptoms, SAD is an interpersonal disorder that disrupts relationships with others (Alden & Taylor, 2004). As such, Brian's fear of social situations in concert with isolation impaired his ability to develop and maintain relationships and pursue career goals. Brian's avoidance and safety behaviors perpetuated his maladaptive coping behaviors, leading to social isolation, alcohol abuse, and depressed mood.

Brian's BDI score was 17 at pre-treatment, which represents mild depressive symptoms. His depression could be attributed to social isolation and behavioral inactivity, exacerbated by alcohol abuse. Brian's depression may also have been related to his self-reported inconsistent use of his medications combined with alcohol, which was contraindicated. In general, all of these potential contributing factors warranted clinical attention and management to ensure a favorable outcome.

## **6 Case Conceptualization**

Brian's symptoms were conceptualized using a cognitive-behavioral model (Clark & Wells, 1995). Early experiences were presumed to create assumptions in Brian about himself and the world that led him to have excessively high standards for his social performance, conditional beliefs concerning performing in a certain way, and unconditional negative beliefs about himself. Brian's fear that he may do something to embarrass himself in social situations was interpreted as a common symptom of SAD. However, one of the sources of this was his concern that others may hear his thoughts and judge him, and therefore a synergistic relationship existed between SAD and his delusions. These beliefs led him to appraise social situations as dangerous and interpret ambiguous or neutral information as signs of negative evaluation.

Following Clark and Wells's (1995) model of SAD, Brian's fear of social situations was conceptualized as maintained through several processes, including viewing himself as a social object in which his attention is allocated to detailed self-monitoring. Furthermore, relative to socially anxious thoughts of non-psychotic individuals, it is expected that Brian's fear that others could hear his thoughts may have been more intrusive and difficult for him to challenge. In addition, to minimize occurrence of a feared catastrophe, Brian performed a number of "safety behaviors" (e.g., placing his sweatshirt hood over his head), which in turn

increased self-focused attention, producing cognitive and somatic symptoms of social anxiety and drawing others' attention. Brian's avoidance of feared social situations was viewed as an escape from the anxiety that accompanies approaching those situations. Brian's subsequent use of safety behaviors in these situations prevented learning that his feared outcome of embarrassing himself may not actually come true, and in fact these feared outcomes typically do not occur.

Brian's depression included anhedonia, difficulty concentrating, low motivation, and lethargy. SAD and MDD are commonly comorbid, with estimates of comorbid MDD in individuals with SAD ranging up to 74.5% (Koyuncu et al., 2014). Because behavioral avoidance has been found to mediate the relationship between social anxiety and depression (Moitra, Herbert, & Forman, 2008), Brian's symptoms of depression were conceptualized as occurring due in part to his withdrawal from social situations and other rewarding activities involving social interaction. Behavioral activation was expected to alleviate symptoms of depression by using activation strategies (e.g., activity scheduling) to counter patterns of inactivity, withdrawal, and avoidance and increase positive reinforcement (Lejuez, Hopko, Acierno, Daughters, & Pagoto, 2011). Although Brian's symptoms of depression were largely conceptualized by social avoidance, some of his symptoms (e.g., low motivation, lethargy) may have been related to factors outside of SAD. Specifically, depressive symptoms may have been directly related to the patient's schizophrenia and may have in fact been in response to his schizophrenia. Furthermore, his depressive symptoms may have been related to his antipsychotic medication, which is often associated with sedative and other side effects (Leucht et al., 2013).

## **7 Course of Treatment and Assessment of Progress**

Treatment sessions were generally once weekly for 22 weeks, for 50 to 90 min. At each session, the severity of Brian's social anxiety and depression was measured by questionnaires, including the SPWSS, SPIN, and BDI. The treatment protocol was based on CBT principles for the treatment of SAD and depression (Huppert, Roth, & Foa, 2003).

### **Treatment Session 1**

During the first session, Brian's therapist (M.T.W.) gathered information about the nature of his social anxiety and asked him to list social situations in which he would like to be able to engage in and feel more comfortable. Brian described a number of problematic situations, listed in Table 1 with accompanying SUDS ratings. For example, he wanted to attend concerts and parties, but it was difficult due to crowds, noise, and lack of personal space. He worried that others would hear his thoughts and think that he was "weird" and "crazy." He also believed that he possessed poor social skills and that he would act inappropriately in social situations. Brian also listed introducing himself to strangers (especially women), going to movies, making phone calls, holding a job, and using public transportations as feared situations that he often avoided but wished to begin engaging in.

The therapist informed him that the goal of treatment was to help him to engage in those situations, and Brian agreed that this was a reasonable goal. The therapist provided a cognitive-behavioral conceptualization of SAD and how CBT can help treat symptoms of social anxiety. Brian was assigned homework to review the model of social anxiety.

Because of his history of attempted suicide and current MDD, suicidality was assessed throughout the treatment process by periodically asking him directly about suicidal thoughts. In addition, he was administered a weekly measure of depression (BDI), which included a direct question about suicidality (BDI item #9). This question was examined at each visit, along with his responses to the other related questions to help ensure safety.

**Table 1.** Pre-Treatment Hierarchy of Feared Social Situations.

Item	SUDS score
Going to a concert	95
Taking public transportation	95
Giving presentation or speech to a small group	90
Going to a house party with some unknown people	80
Sitting in a classroom (being called on and not having homework)	80
Returning an item to a store	70
Going to a theater for a movie or play	65
Conversation with a person in line at convenience store	65
Conversation with small group of new people	60
Extended conversation with stranger	55
Sitting alone in a restaurant or cafeteria	55
Going to a restaurant with family	45
Job interview	45
Introducing self to women	40

SUDS = Subjective Units of Distress Scale (0-100).

### **Treatment Session 2**

Brian rescheduled his next session due to anxiety about not completing his homework and feeling depressed. He eventually completed his homework and attended the rescheduled session. The therapist reviewed with Brian his safety behaviors in social situations as avoiding eye contact, placing his hood over his head to avoid drawing attention to himself. He also reported wiping his mouth several times after eating to avoid embarrassing himself by having food on his face. He also focused on seeming stupid, noticeably “freaking out,” saying embarrassing things, and others could hear his thoughts. To demonstrate the detrimental effects of safety behaviors or at least that they are unnecessary, Brian engaged in two conversations with confederates. He was instructed to use his safety behaviors as usual in the first conversation but not to use these behaviors in the second conversation. In the second conversation, he was encouraged to focus his attention outward toward the conversation itself, instead of focusing inward on how the other person may be hearing his thoughts and evaluating his performance.

In the first confederate conversation, with safety behaviors engaged (e.g., avoiding eye contact) and self-focused attention, Brian predicted a higher rating of distress prior to the conversation than his reported peak rating. Unfortunately, he reported that when he used safety behaviors, his actual ratings of these concerns were much lower than his initial predicted scores. For example, he reported lower levels of distress in regard to “seeming stupid,” “saying embarrassing things,” and “hearing my thoughts/feelings,” when he engaged safety behaviors.

However, the second confederate conversation (outward focus; disengaged safety behaviors) revealed that Brian’s peak distress level was higher than the peak distress rating for the initial confederate conversation. Prior to the second confederate conversation, Brian predicted his distress rating of 2 for “seeming stupid”; however, his actual peak distress rating was 8 (on a scale of 1-10, where higher numbers were more extreme). Therefore, when he repeated the conversation with the confederate and dropped safety behaviors, he felt more stupid after the exposure, less of a sense of freaking out (6 vs. 4), no change in his experience of having said something embarrassing (7 vs. 7), and a large drop in his sense of others being able to hear his thoughts (6 vs. 1). From the video feedback, the patient rated that he looked anxious (7) but rated himself a 0 on all other items (seeming stupid, freaking out, saying something embarrassing, or hearing his thoughts).



With this information, it can be deduced that Brian experienced the bulk of his distress when he engaged in self-focused attention. Although it appeared that the safety behaviors buffered his distress, as evident of the lower (peak) distress rating, the safety behaviors encouraged withdrawal in social interactions. Consequently, avoidance and the practice of safety behaviors prevented coping in a healthy and adaptable manner. As such, continued maladaptive coping (i.e., self-focused attention and avoidance behaviors) exacerbated his social challenges.

Following the exposure, Brian and the therapist reviewed a video recording of the session to see how these two conversations differed. The patient reported that he did not perform as badly in the conversations as he expected, particularly the one in which he was not using his safety behaviors. In addition, the confederate completed ratings of Brian's social anxiety, performance during the conversation, and whether his thoughts were heard.

At the end of each session, homework was assigned for the upcoming week, which included engaging in specific social situations typically avoided, recording anxiety, and doing scheduled activities to alleviate depression. Telephone contacts were scheduled as needed in between sessions to monitor progress with homework assignments. After Session 2, Brian's homework was to self-monitor anxiety during outward focus exercises and draft a preliminary hierarchy of activities to practice.

### **Treatment Sessions 3 and 4**

Brian did not complete his homework due to traveling during the Thanksgiving holiday. However, he reported that he accompanied his family in visiting extended family, which he said he would have avoided prior to treatment due to social anxiety. Furthermore, Brian reported that the visit was not as anxiety-provoking as he had expected. In session, the therapist planned for him to participate in a conversation with a confederate, with a pre-selected topic about movies. Brian completed a pre-exposure rating form, estimating how severe the feared consequences would be (embarrassment, appearing stupid, and the confederate hearing his thoughts). The confederate was also given a rating form to rate Brian's observable behaviors after the completion of the interview. Prior to the exposure, Brian reported feeling depressed and therefore did not feel anticipatory anxiety about the conversation, but exposures were conducted despite his mood. It was perceived that if the patient could "escape" exposures due to unpleasant feelings, there would be counterproductive rewards for a negative mood. Following the exposure, Brian rated on a 0-10 scale (0 = *poor performance/no anxiety*; 10 = *peak performance/maximum anxiety*) his overall performance as a 7, and his anxiety as a 2. He also reported no feelings of stupidity or embarrassment, and he did not think the confederate could hear his thoughts. The confederate ratings of the patient were similar: 8 for performance and no reports of observable stupidity and embarrassment, and he could not hear the patient's thoughts. These ratings were shared with Brian to help disconfirm his inaccurate beliefs.

In Session 4, Brian reported completing his homework which consisted of the following: taking two walks where he practiced outward focusing, attending a funeral, going to the store, and attending an online chat game. During these social activities, he reported being very anxious with his SUDS at 70. However, he reported while walking the dog, he was able to focus outwardly without feelings of anxiousness. The patient also reported safety behaviors of frequent mouth wiping after eating, avoiding eye contact, and wearing a hat or hood.

Last, the patient participated in an in-session exposure of introducing himself to a female research assistant. The patient's pre-SUDS was 35 and post-SUDS was 45. Prior to the exposure, Brian reported fearing that his face would appear flushed and that his conversation partner would detect his nervousness. Following the exposure, he reported that his face had flushed and that he had begun to sweat during the conversation. In processing the exposure, the therapist focused on whether the conversation partner had taken note of physiological changes reported by the patient.

Upon reflection, Brian said he believed that she probably had detected his flushed face but may not have noticed his sweating. The therapist-assigned homework was for the patient to introduce himself to a female every day and record his anxiety, in addition to continuing behavioral activation daily for depression.

### ***Treatment Sessions 5 to 8***

In Session 5, Brian reported that he did not go out much due to his grandparents being in town. However, he did introduce himself to five women at a party (SUDS = 45). The patient reported that introducing himself to women became much easier with practice. Brian also reported going out to eat with family and friends, going to the mall, and walking the dog. He reported an overall good mood and feeling less anxious as he had increased his practice of focusing externally. The exposure hierarchy was revisited, and the patient reported decreased SUDS in the following situations: introducing self to a woman, 25 (initially 40); attending a job interview, 30 (initially 45); going to a restaurant with family, 10 (initially 45); and returning an item to the store 20 (initially 70). Subsequently, an in-session exposure activity was arranged at the cafeteria. Brian was asked to sit in the cafeteria alone for 25 minutes until his anxiety decreased; the patient started with a SUDS of 50, with a peak of 65 during the exposure, and post-SUDS of 0. For homework, the patient was instructed to practice sitting alone at restaurants or coffee shops 3 to 4 times and to initiate conversation at a store 3 to 4 times.

Although at Session 6 Brian did not complete all of his homework, he did report going to fast food restaurants, spending time with his friends twice, and going to a store. Although the patient's anxiety and depression had decreased, he still reported that most of his anxiety was attributable to concern about others hearing his thoughts. Brian identified greatest concern about embarrassing things, private thoughts (e.g., minor lies told to friends so as not to hurt their feelings), morbid thoughts (e.g., fear that family members may contract serious medical illnesses), and "stupid" thoughts (e.g., ingredients to add to water to make it taste better). As a result of this concern, he reported trying to control his thoughts, which was identified as a safety behavior. The therapist also discussed the importance of completing homework and reviewed the obstacles that were inhibiting homework completion. One obstacle Brian identified was not having access to a car to drive to various locations to complete assigned exposure exercises. Although he was able to drive, he reported he had totaled his car in an accident and that his parents did not allow him to drive their cars. With Brian's permission, his father was invited into the session to discuss logistics associated with completing homework. The purpose of the exercises was explained, and his father agreed to allow Brian to use the family cars for this purpose. His father also asked the therapist about Brian's progress, and the therapist reported that Brian had made substantial progress, particularly in decreasing his avoidance of feared social situations.

At Session 7, Brian reported that he completed most of his assigned homework, including watching a movie in the theater twice, going to a restaurant twice, and leaving his house daily to walk the dog or visit with friends. He reported that attending one movie was less anxiety-provoking than the other, which he attributed to being more engaged in that particular movie. At the other movie, Brian reported being less engaged in the movie and more preoccupied with feeling trapped as it was not socially acceptable to step out of the movie, and that others could hear his thoughts and would think negatively of him. Based on Brian's report, it appeared that he was starting to see the beneficial effects of focusing his attention outward and how focusing inward tended to increase his level of anxiety. He reported not feeling well during session due to excessive drinking the night before.

The therapist did not tell Brian that his delusions were false but continued to challenge him to engage in experiments to determine the truth on his own. To that end, Brian participated in an exposure experiment by telling a lie to a confederate about his current place of employment;

he predicted at a 5 of 10 that the confederate would identify the lie by reading his thoughts and would smirk or grin at him as an indication of this. The patient subsequently performed his safety behavior by putting his hood on his head. Following the exposure, he rated a likelihood of 6 of 10 that the confederate sensed he was lying and 4 of 10 that the confederate heard his thoughts. Overall, Brian felt that the conversation went well. He also reported, however, that he found it easier to focus outward when he was hungover. The patient also participated in another experiment with a confederate to test whether another person could hear his thoughts of cursing in his head. Brian reported his pre-, peak-, and post-SUDS as 85, 90, and 70, respectively. The confederate reported that he could not hear patient's thoughts, but Brian continued to doubt that his thoughts were private. Homework was assigned and included sitting in a restaurant while intentionally having negative thoughts, refrain from trying to control his thoughts around others, and to attend a movie 2 to 3 times.

At Session 8, Brian reported that he did not complete his homework, as he was "feeling lazy." An in-session exposure was conducted with the patient sitting alone in the cafeteria, intentionally having bad thoughts and trying to project these onto others. He predicted that others would react to these thoughts by judging and laughing at him. His pre-, peak-, and post-SUDS were 40, 60, and 15, respectively. Following the exposure, Brian noted that no cafeteria patrons exhibited any signs of being able to detect his thoughts. Thus, the exposure served to provide corrective information for Brian, as he learned that people may not be able to hear his thoughts, or if they did, they did not seem to care.

### ***Treatment Sessions 9 and 10***

As Brian became more comfortable in social situations, the proceeding sessions included exposures involving higher anxiety-provoking interactions. In Session 9, Brian completed most of his homework, through which he disconfirmed some of his maladaptive beliefs. Specifically, he reported having gone to two restaurants and projecting bad thoughts toward his parents. This exercise enabled Brian to disprove the notion that others could hear his thoughts. In addition, he attended a party in which he reported not feeling socially anxious, but he did consume alcoholic beverages, against medical advice. Considering that Brian reported that alcohol consumption minimizes social distress, his anxiety rating is not an accurate reporting based on therapy goals. In addition, alcohol consumption can be conceptualized as a safety behavior to avoid feelings of anxiety.

Session 9 continued with an in vivo exposure that consisted of riding the subway with the therapist. Brian reported his pre-, peak-, and post-SUDS as 45, 50, and 0, respectively, with no difficulty after the exposure, indicating habituation. For homework, he was assigned to go to the movies, ride the subway to his next appointment and write a one-page speech to practice in session. As he desired to return to school, the speech assignment was chosen because it was something he would need to do in a classroom setting.

At Session 10, Brian reported completing most of his homework and continued to demonstrate marked improvement. Assigned homework was to continue in vivo exposures, go to the movies, outward thinking, and behavioral activation assignments.

### ***Treatment Sessions 11 to 20***

By Session 11, Brian was able to ride the subway alone, having practiced this for homework, and in fact rode the subway to session with his father (pre-, peak-, and post-SUDS were 50, 50, and 20, respectively). In addition, he attended a movie once, practiced having negative thoughts toward others, and completed a one-page speech about his dog, but he forgot the speech at home. When reassessed, he reported less anxiety but reported feeling depressed because he had been out of medication for a few days. Brian gave his speech to the therapist in

an otherwise large empty room with a pre-, peak-, and post-SUDS score of 60, 90, and 40, respectively. When he attempted to deliver the speech a second time (peak SUDS of 80), Brian reported that he was sweaty and did not like being the center of attention. He then expressed that he would like to prepare first with note cards. As such, homework was assigned for him to continue taking the train, give a talk to other people such as friends with note cards (5 times), and attend a movie (1-2 times).

At Session 12, Brian reported that he did not like riding the train because he was anxious about missing his stop; his reported SUDS for pre, peak, and post are 65, 75, and 40, respectively. In addition, he admitted being avoidant about giving the speech to others but committed to give the speech to his parents first. Homework assigned was to read a handout about anxiety and panic, practice the speech in front of his parents, and go to the movies.

At Session 13, a review of the psycho-educational material on anxiety and panic was conducted with Brian. This is an important part of therapy that provides a knowledge base about the nature and the most common findings regarding the presenting problem, and it helps to increase habituation. As such, four mantras were derived to assist with Brian's cognitive restructuring process: (a) small stupid things I do people don't notice, (b) people aren't focused on me even though it feels like it, (b) people can't tell when you're nervous, and (d) keep practicing and it gets easier. Generally, Brian reported notable mood improvement in part due to medication compliance; however, he reported that he still sometimes heard voices and suspected that others could hear his thoughts. In addition, he traveled to session via train with pre-, peak-, and post-SUDS of 75, 75, and 0, respectively. Despite Brian's marked progress with the public transportation exposure, he attributed most of the worry to concerns over missing his stop or losing his ticket. As such, homework assigned reinforced practicing in vivo exposures, continue traveling on the train, practice giving a speech to others, and attending a movie (1-2 times).

Brian demonstrated more motivation as evidenced by completing homework assignments and compliance with medication. By Session 14, Brian arrived to session via train and reported SUDS for pre, peak, and post as 30, 35, and 0, respectively. He also reported that giving a speech in front of his parents was less challenging after having practiced 3 times. He then practiced giving the speech in a video-recorded, empty room in front of the therapist; Brian reported SUDS for pre, peak, and post as 50, 65, and 10, respectively. The therapist told Brian that the recorded exposure would be reviewed in Session 15. Homework was assigned to continue riding public transportation to session, to attend a concert, and to practice going to the movies.

At the subsequent session, Brian reported having practiced watching a movie at the theater with SUDS of 15 for pre-, peak-, and post-exposure. He also arrived to session by train with SUDS for pre, peak, and post reported at 20, 35, and 20, respectively; a decrease in SUDS rating may be due to the fact that he fell asleep on the train—an indication of low anxiety. Generally, Brian demonstrated improvement and continued to be motivated to complete treatment. Following homework review, an in vivo exposure was conducted that involved the review of Brian's recorded speech to a small group (three confederates). In addition, he held a 15-min discussion after the review of his recorded speech. Brian reported SUDS ratings for pre, peak, and post at 50, 60, and 0 respectively. Confederate feedback in concert with Brian's predictions were collected by the therapist, to be discussed with him in Session 16.

For homework, Brian was asked to write and practice a new speech in the form of an imaginal exposure. An imaginal exposure is a patient-developed script that captures his or her concerns when the event is happening; often delivered in the second person, present tense by the therapist ("You are . . ."). The patient can be asked to write a script for homework, or the patient and the therapist can create it in the session. An imaginal exposure can be useful in patients with SAD when patients hold a feared consequence that is unlikely to occur and yet so powerful that it feeds avoidance behavior (e.g., Vrielynck & Philippot, 2009). The exposure

should contain much detail, including all the senses (sight, hearing, smelling, etc.), as well as how patients feel and think throughout the story.

In Session 16, Brian arrived to therapy without his imaginal exposure homework; however, he practiced other social situations listed on his hierarchy: dinner with friends, talking with a new female friend, and attending a party. An imaginal exposure of a failed speech was drafted in session. Brian gave a pre-SUDS rating of 20 before reading the draft into a microphone for recording. The purpose of drafting the worse-case scenario is to afford the patient a simulated experience to elicit and heighten anxiety surrounding events they worry could happen well into the future (e.g., "If I keep saying stupid things in social situations, people will keep reacting to me by berating and rejecting me for the mildly stupid things I say, and therefore I'll be alone forever").

In Session 17, the imaginal exposure of the failed speech was recorded twice. Brian reported that it did not make him feel anxious, with a reported peak SUDS score of 35; however, he stated that the exposure made him feel depressed, as such, the imaginal exposure was abandoned. The therapist shifted the discussion to the feedback regarding the recorded speech exposure and small group discussion conducted in Session 15. Brian's predicted performance and predicted audience reviews obtained an average rating of 5 on a scale of 0 to 10. In addition to Brian's predictions, confederates also provided ratings for his speech delivery that were on average, 5 to 6 points higher than his predictions averaged before delivering the speech. Overall, the confederates complimented Brian on his performance, speech design, and the amount of content addressed. As stated earlier, it is efficacious to compare patient predictions with confederate ratings to aid the patient in disproving his or her automatic thoughts. Brian learned from the exposure that he could deliver an adequate speech and that it was unlikely that others would ridicule him. For homework, Brian agreed to draft a new speech to practice with family members and to ask three women for their phone numbers.

For Session 18, Brian reported that he did attend a concert (pre-, peak-, and post-SUDS scores at 50, 80, and 40, respectively) but did not complete other assignments. However, the patient participated in an *in vivo* exposure that involved the patient writing a long poem to recite in front of an audience of four people and the therapist, including a question and answer session at the end (pre-, peak-, and post-SUDS scores at 55, 70, and 20, respectively). Brian demonstrated great courage by reciting another poem impromptu and subsequently answered questions. Concluding the exposure, he reported that he felt that he could present in a classroom setting. Again, confederate ratings were collected and rated very highly on a 0 to 10 scale. On average, Brian was rated at 9 on his overall performance, and when asked "how anxious did Brian appear," confederates rated, on average, a 2.

Furthermore, as evidence by Brian's marked improvement and few residual symptoms of social anxiety, the patient and therapist discussed returning to school. Homework assigned continued to focus on social skills development; Brian was assigned to ask several females for their phone numbers and to continue to practice other exposures.

At the beginning of Session 19, Brian reported that he did not complete his homework due to feeling depressed the previous week. Despite the feelings of depression, Brian had a few remnant symptoms of SAD. Furthermore, the agreement was concluded to terminate treatment after further review of the confederates' feedback, and subsequently, treatment goals were reviewed. Homework assigned involved an additional exposure to start conversations with random females at a bookstore 2 to 3 times with 5 to 10 people; Brian predicted a pre-SUDS score of 45. Last, follow-up sessions were planned to discuss progress when patient attended school.

### **Final Session**

The final session consisted of discussion of progress, helpful techniques learned in therapy, and relapse prevention. Brian's parents attended the final session and expressed concerns

about his progress. Although his symptoms of SAD were greatly improved, they were concerned about his unwillingness to attend school full-time and increase his work hours. In addition, his mother felt that he was not helpful around the house and that she needed to expend too much energy to help him organize his activities. In light of the familial distress experienced due to Brian's limitation, recommendations to attend family therapy and management for ADHD symptoms were suggested.

Moreover, despite his parents' request, Brian expressed an autonomous decision to attend school part-time first then progress to a full-time class, with a work schedule to ensure success in his performance. In addition, Brian felt that a full-time school and work may overwhelm him. As such, he made a plan to enroll in one to two courses at a local community college. The therapist supported his plans. Follow-up sessions were planned to monitor symptoms while attending school and working.

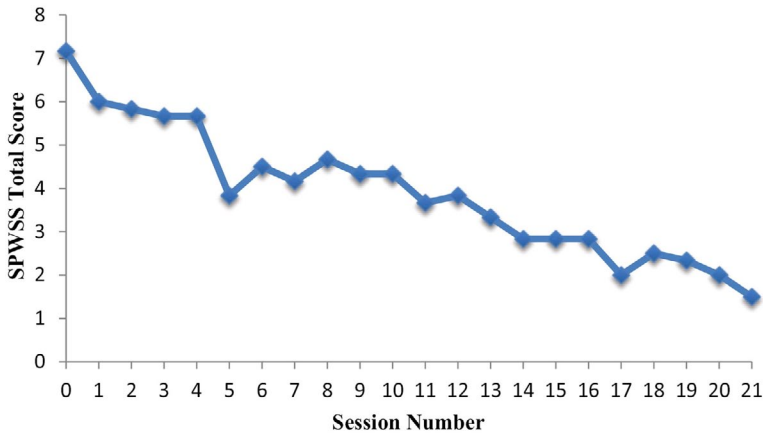
### **Evaluation of Outcome**

The patient reported that he no longer was anxious in social situations, and the therapist noted that he made significant progress in decreasing his anxiety throughout treatment. In addition, Brian's scores on clinician-administered interviews and self-reports demonstrated a consistent reduction in anxiety and related symptoms throughout treatment, with all mood and anxiety measures having moved into the normal range. His LSAS score dropped steadily, with a total score of 129 at intake, 72 at mid-treatment (Session 10), and 25 at post-treatment (Session 21). Brian's SPWSS score decreased from a total score of 7.2 at intake, to 4.3 at mid-treatment, to 1.5 at post-treatment (see Figure 1). In addition, his scores on the SPIN (see Figure 2) also decreased with treatment, from 42 at intake, to 19 at mid-treatment, and finally, to 7 at post-treatment. Brian's report of symptoms of depression, as measured by the BDI (see Figure 3), mirrored the trends with this anxiety, with a score of 17 at pre-treatment, 9 at mid-treatment, and 8 at post-treatment. Also of note, his paranoia decreased, with an IHS score of 44 pre-treatment and 25 post-treatment. His overall quality of life increased, with a Q-LES-Q score of 44 pre-treatment and 53 post-treatment, indicating a large improvement of 11.3%.

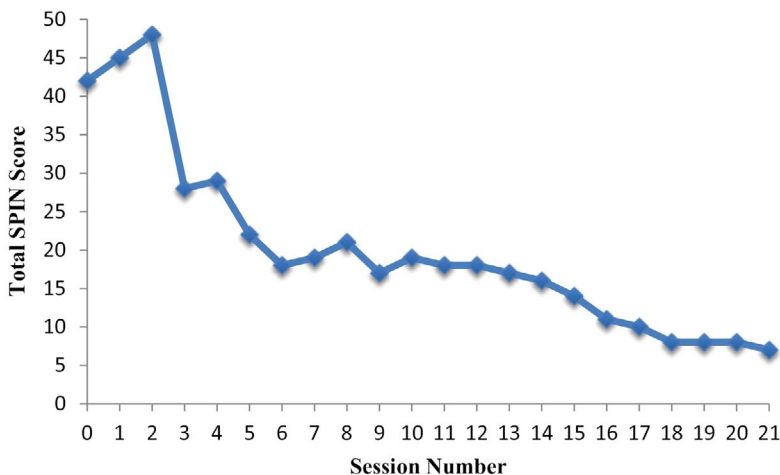
### **8 Complicating Factors**

Although Brian entered therapy reporting that his depression symptoms had improved significantly in the past few years, he still experienced moderate depression. As noted previously, Brian's symptoms of depression were largely conceptualized as the result of social avoidance related to SAD but may have also been related to schizophrenia. Brian's specific symptoms of depression included becoming exhausted easily, which caused him to exert strong efforts to complete routine tasks. He also was discouraged about his past failures, had difficulty making decisions, and had trouble sleeping. In addition, Brian acknowledged that he often isolated himself from others, which made him feel more depressed. He was encouraged to force himself to spend time with friends and family, and he often reported this helped to relieve his symptoms of depression.

Another factor that complicated Brian's case was his resistance to engaging in exposures, evident since Session 2. After watching a video of himself engaging in conversation as part of the safety behavior experiment, he became depressed and said that he wanted to skip that session's planned exposure. He continued to resist participating in exposures, both in-session and with those assigned for homework, due to their aversive nature. To increase compliance, the therapist checked homework completion each session, praised him for completed homework, and regularly emphasized the importance of completing homework. On occasions in which Brian did not complete assigned homework, the therapist guided Brian in problem solving any barriers to completing the task, and the task was re-assigned. Although the patient did



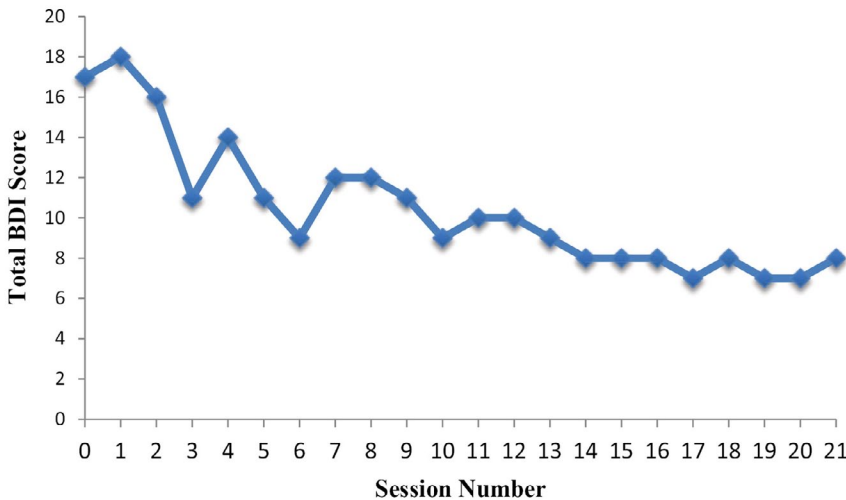
**Figure 1.** Self-focus and symptom severity as measured by the Social Phobia Weekly Summary Scale (SPWSS).



**Figure 2.** Fear, avoidance, and physiological arousal associated with social anxiety as measured by the Social Phobia Inventory (SPIN).

not complete all exposures assigned for homework, he completed enough of the exercises to lead to symptom improvement.

Finally, Brian's drinking habits disrupted therapy. On one occasion, he drank alcohol heavily with friends the night before a session and reported to the session hungover. Brian justified his alcohol use as a means to relax (not feeling anxious) in social situations (e.g., parties or talking to women). Although alcohol afforded Brian temporary relief in social events, the benefits were short-lived. It is not uncommon that alcohol and other substances may be used to alleviate symptoms of anxiety (Frojd, Ranta, Kaltiala-Hein, & Marttunen, 2011); thus, alcohol use disorders are frequently comorbid with SAD (J. D. Buckner et al., 2008).



**Figure 3.** Depressive symptomology as measured by the Beck Depression Inventory (BDI).

### 9 Access and Barriers to Care

Brian overcame a number of barriers to access the psychological care that he needed. The lack of evidence-based treatments practiced in the community in general and particularly for those with psychosis (for a review, see Berry & Haddock, 2008) was a barrier to his treatment. Pharmacotherapy is frequently presented as the sole intervention for individuals with psychosis, despite the growing empirical evidence demonstrating the efficacy of psychotherapy in this population (e.g., Morrison et al., 2012). Although Brian was fortunate to have access to empirically based psychotherapy delivered at a leading university medical center, the distance to the treatment facility presented a modest barrier to care, as the patient had to travel about 30 miles from his home for each session. Nonetheless, the treatment venue was easily accessible by both public and private means. Brian would not have been able to obtain treatment without the financial and logistical support of his parents, who paid for his treatment and accompanied him to early sessions. His limited finances (due to his psychopathology) and the nature of his psychopathology (fearfulness of people) could have created an impassible barrier to treatment in and of itself. Brian also reported having a negative experience with a previous treatment provider, who he said had refused to see him after he reported to her that he had been experiencing suicidal ideation. Although it would be expected that Brian would have difficulty seeking treatment after this incident as well as difficulty developing therapeutic alliances and a sense of trust with future therapists, he and the current therapist were able to develop a fairly strong therapeutic alliance that served as the foundation for treatment.

### 10 Follow-Up

About 2 weeks after the conclusion of treatment, Brian made a suicide attempt and was hospitalized for 1 week. He attributed his stress to his challenging relationship with his parents. As an integral part of his support network, Brian's parents exhibited a powerful influence on his functioning. Unfortunately, based on the previous session's discussion with Brian's parents, it appeared they may have interacted with Brian in ways that perpetuated his distress and increased his risk for relapse. Although they were supportive in paying for and transporting him to treatment sessions, at times Brian's parents appraised his behavior in ways that were



discordant with his marked improvement and seemed to demonstrate little understanding of his limitations. These factors appeared to have contributed to his parents' seemingly low levels of empathy and high expectations.

In hindsight, the conflict Brian experienced with his family may have been prevented or minimized by involving his parents more throughout the treatment process. The clinic where Brian received care specialized in very focused treatments for anxiety-related conditions, but clinicians who are able to provide a broader range of services should dedicate time to understanding dynamics of the relationship between the patient and parents, and also on helping the parents to understand the limitations and difficulties of such patients. In fact, evidence-based treatment recommendations for individuals with schizophrenia who have regular contact with family members include family-based interventions (Dixon et al., 2010). These recommendations are based on findings of such interventions showing benefits to patients and families, including increased medication adherence and reduced psychiatric symptoms (e.g., Pitschel-Walz, Leucht, Bauml, Kissling, & Engel, 2001).

Nevertheless, a few months later, this crisis had resolved, and Brian had enrolled in four courses at a local community college. He agreed to return to therapy if he perceived that he was having additional difficulty with his social anxiety.

## **11 Treatment Implications of the Case**

The successful treatment of Brian's SAD provides evidence to support CBT as an effective treatment for SAD in patients with symptoms of psychosis. A common assumption by some therapists is that those with psychosis will not have the cognitive resources to successfully engage in CBT. However, Brian was able to grasp the treatment model and engage in cognitive restructuring similar to patients without psychotic symptoms. Of course, treatment for Brian required more care, as described above with the complicating factors. However, with the progression of therapy, Brian's autonomy gradually burgeoned with his consistent commitment to actively participate, practice, and complete assignments to accomplish his treatment goals. In addition, he reported less alcohol consumption, greater medication compliance, and increased behavioral activation, which is believed to be responsible for the decline in symptoms.

## **12 Recommendations to Clinicians and Students**

It is important to ensure that all medications for psychotic and depression symptoms are stable before beginning CBT for SAD. Treatment of SAD in patients with psychotic disorders is already challenging, given the extra attention that must be paid to symptoms such as auditory hallucinations and paranoia. If these symptoms are not well-managed, they can take precedence over the SAD symptoms, and treatment may be less effective. For this reason, it is critically important that such patients be followed by a regular psychiatrist. Considering that Brian struggled with schizophrenia and that there is entangled symptomology with his SAD, it can be helpful to engage in CBT for the comorbid disorders and medication compliance. If both primary and comorbid symptoms are attended to simultaneously, the treatment process for SAD may resolve comorbid depression symptomology and paranoia associated with schizophrenia.

Of similar importance is the implementation of family therapy. Family counseling can facilitate a balance between the patient's current stages of change, realistic expectations, and positive familial support. Therefore, it is particularly advantageous to encourage family therapy to ensure a healthier sense of support for the patient, educate the family unit about the patient's condition and goals, and provide an outlet for distressed family members.

For individuals presenting with primary problems relating to schizophrenia, CBT should be considered, considering the growing literature base demonstrating its efficacy (Morrison

et al., 2012). Many of the same techniques used in a general course of CBT are central components of CBT for schizophrenia. However, the authors also identify important adaptations of psychotherapy for this population, including slower pacing of sessions, shorter duration of sessions that occur with more frequency, and written summaries of sessions for patients. Furthermore, the authors suggest making initial goals achievable and “unambitious.”

For individuals with well-managed schizophrenia who present for treatment of anxiety symptoms, the empirical literature offers a paucity of evidence needed to provide definitive intervention guidelines. However, this case study suggests that existing evidence-based treatments, delivered with necessary adaptations, can produce successful outcomes. Brian’s case illustrates that with persistent work and careful attention, patients with SAD can improve with CBT, despite complicating factors, such as psychosis, alcohol abuse, MDD, and family conflict.

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