Behavior Therapy and the Course of Schizophrenia

Patrick W. Corrigan
University of Chicago, Pritzker School of Medicine

Behavior therapy has been criticized recently for turning its back on schizophrenia and making the disorder its "forgotten child" (Bellack, 1986). For example, in his survey of the literature, Bellack found that the number of books and professional journals which have published behavioral papers on schizophrenia have profoundly decreased. Perhaps this status has been earned however, the token economies and social skills modules that make up the mainstay of behavioral treatment for this population are not truly innovative in light of clinical and research trends in other areas of behavior therapy. Moreover, the theoretical leaps that have been achieved by experimental psychopathologists in describing the etiology and phenomenology of schizophrenia have been ignored by behavioral innovators in many circles who instead have sought to keep intervention strategies for these patients grounded in learning principles. This article attempts to tie the judicious application of behavioral interventions to recent findings from psychiatry regarding the course of schizophrenia. Integrative agenda like this one will help to expand the operant and cognitive strategies beyond the typical approaches to the schizophrenic patient.

Behavioral Interventions: Where We've Been

There is little argument that the treatment armamentarium of schizophrenia has benefitted significantly from insights of behavior therapists. Since its inception, behavior therapy has been found to significantly ameliorate many symptoms of chronic psychosis including delusional speech (Ayllon & Haughton, 1964; Liberman, Teigen, Patterson, & Baker, 1973; Patterson & Teigen, 1973; Winoc, Leitenberg, & Agras, 1973), functional mutism (Isacs, Thomas, & Goldiamond, 1960; Sherman, 1965), conceptual disorganization (Mischenbaum, 1966, 1969; Mischenbaum & Cameron, 1973), and patient report of hallucinations (Alford, Fleece, & Rothblum, 1976; Bucher & Fabricatore, 1970; Haynes & Geddy, 1973; Slade, 1973). In addition, behavioral techniques have facilitated improvement of the chronic psychiatric patient's self-care skills like bathing, shaving, dressing, and feeding (Asthowe & Kramer, 1968; Ayllon & Azrin, 1968; Banzett, Liberman, Moore, & Marshall, 1984; Steffy, Hart, Crow, Torney, & Margett, 1969) as well as social behaviors like basic conversation skills and interpersonal problem solving (Brown & Munford, 1983; Fecteau & Duffy, 1986; Hansen, St. Lawrence, & Christoff, 1985; Wallace & Liberman, 1985). More ambitious investigations have applied comprehensive behavioral programs to chronic patients for prolonged periods of time to target a broad range of skill deficits and inappropriate behaviors (Ayllon & Azrin, 1968; Fairweather, Sanders, Cressler, & Maynard, 1969; Wallace, 1982).

In perhaps the best controlled example of this ilk, Paul and Lentz (1977) randomly assigned hospitalized subjects to either social learning or milieu therapy groups and compared patient and staff variables over repeated measurements during 4.5 years of treatment and 1.5 years of follow-up. Treatment included a highly defined token economy and training of opportunities in which targeted skills could be shaped. Results showed that all patient variables changed in directions demonstrating less symptoms and better functioning after social learning treatment. Moreover, 93% of subjects in the social learning group were rehoused from the hospital at the end of treatment while only 45% of patients receiving traditional hospital care at the same time were discharged. Most patients in the social learning group continued to stay out of the hospital eighteen months later.

In a similar important study, Hogarty and his colleagues (1973, 1974, 1979) tested the effects of skills training, in concert with neuroleptic medication, on the relapse rates of schizophrenic patients. Subjects were randomly assigned to a medication management group or to drug administration and social skills training. The social skills training condition was a comprehensive intervention to varied interpersonal behaviors that fostered acquisition through modelling and role play. Results of their study showed that patients who did not participate in the skills training group were almost twice as likely to experience significant relapse in the following year and be readmitted to the hospital. The sum of evidence suggests that behavior therapy has a significant and specific role in the amelioration of symptoms of schizophrenia. The naive therapist might conclude that treatment programs which faithfully apply invariant strategies will inevitably improve patients' status. However, a continuously expanding knowledge base regarding schizophrenia arising out of experimental psychopathology suggests that the course of the disorder, and the treatment settings which address the resulting disability, are highly variable. For example, research describing the changing course of the disorder has greatly expanded comprehension of the etiology and phenomenology of the illness. Similarly, clinical services research shows that treatment settings vary greatly in the resources and strategies used to treat schizophrenic patients. Formulating behavior therapy hypotheses vis-a-vis disease course and varied setting resources will improve their heuristic power and eventually lead to more effective and durable interventions.

The Different Courses of Schizophrenia

Kraepelin (1902, 1919) characterized the course of schizophrenia as invariably resulting in long-term unremitting symptoms and chronic deterioration of interpersonal and self-care skills. Hence, the diagnosis of schizophrenia led to an expectation that patients will demonstrate progressively worsening symptoms and slowly diminishing social and self-care functions. Kraepelin's perspective remains influential today. According to DSM-
III-R (American Psychiatric Association, 1987), patients with schizophrenia rarely attain premorbid level of functioning after the active phase of the disease remits. Similarly, the DSM decision trees suggest that "good disease resolution" differentiates more benign psychopathologies like schizophrenia or schizoaffective disorders from schizophrenia.

Contrary to Kraepelin's view however, research suggests that schizophrenia-spectrum disorders manifest several different courses with the form of the course and the prognosis varying greatly (Carpernet & Kirkpatrick, 1988; Harding, 1988). For example, Ciompi (1980) described eight Course-Types distinguished by permutations of three disease factors: onset, display, and end state. Onset is divided into a relatively acute presentation of symptoms with a normal premorbid period versus an insidious, chronic onset marked by a socially aberrant prodrome. The disease may display itself in an undulating pattern in which symptoms and social competence wax and wane or a simple flat course, in which disease manifestations remain relatively constant and unchanging. The end state of the disease varies from a relatively mild outcome with possible complete recovery versus a severe result with social functioning deteriorated. Kraepelin's view of a progressive unremitting dementia is represented within only two of the eight Course-Types and account for only 32% of the schizophrenic subjects sampled in Ciompi's study.

The eight Course-Types vary along a continuum of severity and, depending on the depth of severity, alter the form of the behavioral intervention. An example of four Course-Types and their appropriate behavioral interventions are summarized in Table 1. At one extreme are "one-time" patients in whom, after a short course of neuroleptics within a calming hospital milieu, symptoms remit and functioning becomes relatively normal. Social dysfunctions in these patients result from the effects of psychotic symptoms in the short term which interfere with accurate perception of social cues and skew selection of appropriate interpersonal responses. Patients at the opposite extreme of the continuum exhibit persisting symptomatology and social dysfunction. The disease does not typically remit nor seem responsive to most treatments. Social dysfunction for this Type results from a poor premorbid history in which appropriate skills may never have been acquired. After years of chronic schizophrenia, the few skills that existed in the patient's repertoire may have fallen off from disuse.

**Course-Type and the Format of Inpatient and Outpatient Care**

Course-Type and severity of illness not only affect the manifestation of the disorder, these factors affect clinical service variables that are related to the form of treatment including the length of hospital stay and decisions about inpatient versus community care. In turn, length of hospital stay and whether treatment is conducted on long term units, short term acute care centers, or community-based day treatment programs all affect the manner in which behavioral interventions are implemented. For example, patients in whom symptoms quickly remit in response to psychotropic medication are likely to be released after a short inpatient stay; the patient may not remain in the hospital for more than a few weeks. Behavioral programs for this population will be used to monitor symptoms for medication titration, control behaviors that are dangerous to self or others, and link patients with aftercare services that provide behavioral treatment targeting relapse.

Conversely, patients with severe deficits or who are resistant to treatment are likely to remain in the hospital for prolonged stays; if they continue to present an imminent danger to themselves or others or have profound disabilities that imply they cannot care for themselves, these chronic patients will likely not be released to the community. In addition to monitoring symptoms and managing aggression, inpatient programs for this population facilitate acquisition of a broader repertoire of interpersonal and instrumental skills so that the patient will eventually be prepared for future community demands. Patients are also immersed in a potent incentive program to assure that their minimal social skills and activities for daily living do not diminish. Some professionals

---

**Table 1**

**The Description of Four Schizophrenia-Spectrum Course-Types and Their Relationship to Treatment**

<table>
<thead>
<tr>
<th>LOW</th>
<th><strong>Single acute episode</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>- Single psychotic episode in lifetime; symptoms remit; relatively normal functioning returns</td>
</tr>
<tr>
<td></td>
<td>- Skills deficit during single index hospitalization results from symptom interference</td>
</tr>
<tr>
<td></td>
<td>- Goal setting and strategic reinforcement to return to prehospital functioning</td>
</tr>
<tr>
<td></td>
<td>- Behavior therapy primarily on outpatient basis:</td>
</tr>
<tr>
<td></td>
<td>- Psychoeducation with family</td>
</tr>
<tr>
<td></td>
<td>- Learn relapse warning signals</td>
</tr>
<tr>
<td>V</td>
<td><strong>Acute episodes, rapid remission</strong></td>
</tr>
<tr>
<td></td>
<td>- Repeated short psychotic episodes; symptoms remit; patient returns to community</td>
</tr>
<tr>
<td></td>
<td>- Behavioral assessment and skills training useful to augment symptom monitoring and medication titration</td>
</tr>
<tr>
<td></td>
<td>- Treatment aimed at reducing stressors in natural environment</td>
</tr>
<tr>
<td></td>
<td>- Other behavior therapies more usefully applied as outpatients</td>
</tr>
<tr>
<td>R</td>
<td><strong>Long-term course, moderated social functioning</strong></td>
</tr>
<tr>
<td></td>
<td>- Symptoms remit more slowly or symptoms diminish to controllable level; patient is moderately socially impaired</td>
</tr>
<tr>
<td></td>
<td>- Sufficient time on unit to implement behavioral assessment for symptom monitoring and skills improvement</td>
</tr>
<tr>
<td></td>
<td>- Patient participates in token economy and self-care skills training</td>
</tr>
<tr>
<td>I</td>
<td><strong>Chronic, deteriorated course</strong></td>
</tr>
<tr>
<td>T</td>
<td>- Patients rarely remit; functioning is chronically poor</td>
</tr>
<tr>
<td>Y</td>
<td>- May be treatment refractory, unresponsive to most antipsychotic medication and psychosocial therapies</td>
</tr>
<tr>
<td></td>
<td>- Low probability of release from inpatient setting</td>
</tr>
<tr>
<td></td>
<td>- Require intensive behavioral interventions</td>
</tr>
</tbody>
</table>

---

62

*the Behavior Therapist*
and families have called for a return to asylum for the most severe, unremitting patients, a safe institution where patients can live protected from the demands of community life (Bachrach, 1984; Wasow, 1986). Behavior therapy has a role in these settings as well. Long term hospitalization that includes several years of behavioral treatment can produce significant results and in some cases, lead to treatment-resistant patients being returned to the community (Paul & Lentz, 1977).

The quality of behavioral interventions will significantly vary as patients’ symptoms and disabilities diminish and they are transferred from inpatient to community-based settings. Several differences in both the qualities of patient deficits and of treatment settings have significant impact on behavioral strategies (Corrigan, 1991). The level of cognitive deficit is typically much greater for inpatients and therefore more likely to hamper their ability to learn targeted skills during training sessions. Level of the outpatients’ agitation and potential violence is much less than hospitalized individuals such that staff at outpatient centers can dedicate less treatment time to aggression management. Similarly, given the restrictive nature of locked inpatient settings, staff are generally able to have more control over ward contingencies. The effects of behavioral contingencies written for patients who live in the community can be undermined by well-meaning parents or friends. Staff on inpatient units can affect patients’ behavior 24 hours a day and have access to almost the entire range of skill deficits and inappropriate behaviors. Patients attending outpatient behavioral programs are present usually for six to eight hours each day. Community-based staff do not get to observe or reinforce behaviors related to home activities. Inpatients who are unhappy about treatment are not able to easily leave the treatment setting and hence are forced to learn to adapt to the behavioral unit’s rules. Patients who are dissatisfied with the contingencies of community-based programs can easily quit. In fact, compliance rates with community-based psychosocial programs have been shown to be quite low (Corrigan, Liberman, & Engel, 1990).

For reasons of demographic, legislation, and fiscal necessity, most treatment settings tend to limit intake to one or two related Course-Types. For example, most private inpatient units restrict admissions to insured individuals; typically patients with acute presentation who do not remain on the unit long. Patients who exhaust their medical insurance or have few monetary resources end up in state institutions or VA psychiatric settings. These patients tend to have a more severe course.

The Effects of Course-Type on Two Behavioral Strategies

Thus far, this article has alluded to the effects of Course-Type on treatment programs in the broadest sense and on behavioral interventions in particular. To elucidate these effects more explicitly, the manner in which varied disease courses and parallel inpatient treatment settings influence two key interventions for treating schizophrenia—token economy and skills training—will be contrasted.

The typical token economy on an inpatient unit requires description of a broad range of prosocial and self-care targets, determination of reinforcement and response cost contingencies for these targets, opportunities for patients to earn tokens from staff according to these contingencies, and posting of exchange rules by which patients can turn in their tokens for a smorgasbord of back up reinforcers. With a suitably broad list of targets and a sufficiently potent set of contingencies, token economies can have a robust effect on the symptoms and behavioral deficits of chronic, severely disabled patients. Moreover, token contingencies have an organizing effect on conceptually disturbed patients, helping them to orient themselves to the various rules in the milieu. Nevertheless, patients must be actively engaged in a token economy for several weeks before the frequency of targeted behaviors change in the desired direction.

For the intensely psychotic patients on the acute care unit, the token economy will help them to focus their limited cognitive capacity on the rules of the unit. However, anecdotally it seems that short stays on acute care units do not provide sufficient time for patients to learn comprehensive incentive programs. Given that the goals of acute care are to foster remission of symptoms, targets on the unit might focus on medication management behaviors, activities for daily living, and behaviors that decrease the likelihood of aggression. Informal social interaction engenders risk and can be stress inducing; hence these behaviors might be deemphasized in the acute setting. Moreover, frequent and potent response costs might produce resentful or angry reactions in the patients. Given that staff do not have a long stay in which to resolve this conflict, re-
feelings. Fewer learning activities were used to facilitate acquisition of these skills; they included establishing a rationale for the skill, discussion of the skill components, modeling the components by therapists, and role playing the skill. Results showed that patients who participated in these modules significantly improved their negotiation skills. Additional analyses showed that patients with higher adaptive functioning prior to joining the two-week course were more likely to learn the two skills. Nevertheless, most patients, regardless of their disability, learned from the module.

Mueser and his colleagues did not directly determine whether level of psychosis of patients on the acute unit affected skill learning. Although one might expect to find that more psychotic patients learn less, other research suggests that level of conceptual disorganization is not associated with skill learning (Corrigan, Wallace, Green, & Schade, 1991). These findings imply therefore that short skill modules can be developed that help patients learn small, discrete skills that may help them cope with their world at discharge. In addition, exposure to skills training programs on the acute unit will facilitate participation in the community-based psychoeducational programs to which some patients are referred.

Other Directions for Behavior Therapy and Schizophrenia

In this article, the interaction of behavior therapy with just one aspect of schizophrenia from the experimen
tal psychopathology literature was outlined to demonstrate possible directions for enhancing the treatment armamentarium. Research has shown that other deficits may be characteristic of the disorder and hence may be germane to the development of behavioral interventions; they include deficits in psychophysiological functions, information processing, social support, family interaction, and life events (Liberman, Nuechterlein, & Wallace, 1982; Liberman et al., 1985). The recent interest in cognitive rehabilitation and schizophrenia is an example of using knowledge about the deficits of information processing and cerebral responsivity to produce ameliorative strategies. Extension of behavioral perspectives and interventions to fields outside learning theory—like cognitive, physiological, social, and developmental psychology—parallels the general zeitgeist of behavior therapy vis-a-vis other populations. As behavioral researchers of schizophrenia continue to incorporate these perspec
tives, new innovations will be fostered and schizophrenia will relinquish its forgotten status in the behavioral liter
ture.

References


Kraepelin, E. (1919). Dementia praecox and paraphrenia. Translated by R. M. Bar

dent Living Skills Series. Camarillo, CA: Clinical Research Center for Schizo
phrenia and Psychiatric Rehabilitation.


chiatric patients. New York: Pergamon.


Requests for reprints should be sent to: Patrick Corrigan, clo University of Chicago, Pritzker School of Medicine, 18951 Center Avenue, Homewood, IL 60430.