Adult behavior disorders, such as alcoholism, depression, anxiety, schizophrenia and bipolar disorders, have serious personal and social consequences. They can be associated with personal distress, impairment of occupational and educational functioning, work absences, financial mismanagement, abuse and neglect of children, medical problems and poor physical health, high mental and medical health-care costs, impaired social and self-care functioning, high demands for behavioral services, frequent hospitalization, marital and family conflict, distress and dissolution, and violence (American Psychiatric Association (APA), 1994; Hersen & Bellack, 2000). Prevalence rates for some adult behavior disorders include 2-12% for Major Depressive Disorders, 14% for Alcohol Dependence and Abuse, and 3-13% for various anxiety disorders (APA, 1994). These data indicate that hundreds of millions of adults worldwide will suffer from mental illness at some point in their lives.

Because of the impairment and distress associated with these behavior disorders, hundreds of controlled research studies aimed at developing effective treatments have been conducted in the last 20 years. These treatment studies have targeted several sets of causal factors presumed to underlie behavior disorders: (a) biological mechanisms (neurotransmitter production and uptake, genetic factors, brain structure and activity), (b) cognitions (e.g., attributions, beliefs, automatic thoughts) (c) social-behavioral factors (e.g., responses of family members and health-care professionals and environmental events, stressors, and contexts), and (d) learning (reinforcement schedules, conditional emotional responses).

For many adult behavior disorders, controlled treatment studies have led to improved treatment outcomes when treatments are based on biological, cognitive and psychosocial models (for reviews of treatment outcomes, see Arnow and Constantino, 2003; Berglund, Thelander and Jonsson, 2003; Gutierrez and Scott, 2004; Rodebaugh, Holaway and Heimberg, 2004; Tarrier and Wykes, 2004).
Many disciplines, such as social work, rehabilitation, neurology, internal medicine, genetics, education, and basic biological science have made important contributions to the development and implementation of treatments for adult behavior disorders. The goal of this article is to examine the role of psychology in the development of empirically supported cognitive and social-behavioral treatments for adult behavior disorders.

While medically and biologically trained professionals would be expected to play leading roles in the development of pharmacological and other biologically based treatments, psychologists would be expected to play a leading role in the development of empirically supported, evidence-based cognitive-behavioral and psychosocial treatments. The training of psychologists in quantitative methods, research design, psychopathology, clinical assessment, and psychosocial treatments provides a strong foundation for the design and evaluation of empirically supported treatments.

For example, a doctoral degree in clinical psychology accredited by the American Psychological Association requires extensive post-bachelors training in research and practice. A PhD from an APA-accredited program requires course-work in research design, statistics, psychopathology, core areas of psychology (e.g., biological, cognitive, social, developmental, learning bases), and treatment research; conceptual and practical training in psychological assessment; two years of pre-doctoral clinical practicum training; close mentoring and supervision by doctoral-level psychologists; a one-year clinical internship; a doctoral dissertation and often a masters thesis. The median length of time for doctoral training is 6.5 years following an undergraduate degree. Many states require an additional two years of supervised clinical experience in order to obtain a license to practice as a psychologist (see accreditation criteria at apa.org).

METHOD
To estimate the role of psychologists in the development and evaluation of cognitive-behavioral and psychosocial treatments for adult behavior disorders we examined the authorship of all recently published clinical trial studies that evaluated the effectiveness of nonmedical treatments—cognitive, behavioral, family, or other psychosocial therapies, for five adult behavior disorders: major depressive disorders, anxiety disorders, alcoholism, bipolar disorders, and schizophrenia. Our focus was on recently published studies but because the rate of controlled treatment studies differs across disorders, the time span of published studies included in this review differs across disorders.

INCLUSION CRITERIA
To be included in this report, the treatment study must have: (a) focused on the treatment of one of the adult behavior disorders noted above (major depression, anxiety, alcohol abuse or dependence, schizophrenia, bipolar), (b) included control groups (e.g., placebo, waiting list, standard or comparative treatment), and (c) used pre- and post-treatment assessments.

SEARCH AND AUTHOR IDENTIFICATION METHODS
Articles were located through multiple computer literature searches (e.g., psychlit, medline) using basic terms such as “depression/treatment,” “clinical trial,” “treatment outcome”. All articles identified in this search were then examined to determine if they met inclusion criteria. We excluded single case studies.1

For articles that met inclusion criteria, we then identified the first author, and conducted additional web-based searches to identify the degree of the author (PhD, MD, or combination MD and PhD). In most cases it was not possible to identify the specific subspecialty (e.g., clinical vs. counseling psychologist) of the author.

RESULTS2
Results are summarized in Table 1 and described below.

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1 Well-controlled single case studies, particularly when they involve systematic manipulations (e.g., ABAB, multiple baseline designs) are valuable research strategies for investigating the effects of interventions with persons with behavior disorders. Thousands have been conducted and almost all have been done with professionals trained in psychology, education, or rehabilitation.

2 Lists of the publications included in this article are available from the first author.
THE ROLE OF PSYCHOLOGY IN THE DEVELOPMENT OF EMPIRICALLY SUPPORTED TREATMENTS FOR ADULT BEHAVIOR DISORDERS

SUMMARY AND DISCUSSION
As expected, based on training and background, psychologists have played a major role in the evaluation of psychosocial treatments for this selected set of adult behavior disorders. Sixty two percent of the first authors of 117 controlled clinical trial identified in this review were PhDs. These data are consistent with expectations based on the strong focus on both clinical and research skills of doctoral-level training of psychologists.

Several limitations in inferences from these data should be noted: (a) controlled treatment studies could have been missed in the literature search, (b) we searched only for recently published studies (from the last 5-10 years), (c) there were several studies for which the professional identity of the first author could not be identified, and (d) the subprofession of the PhDs and MDs could not be ascertained.

REFERENCES

### Related articles

**Psychosocial Treatments of Adult Anxiety Disorders**
We identified 27 controlled clinical trial studies published since 2000. Of the first authors of these studies, 14 (52%) were PhDs, 8 (30%) MDs, 1 (4%) MD & PhD, and 4 (16%) were doctoral students in psychology.

**Psychosocial Treatments of Adult Alcohol Dependence and Abuse**
We identified 24 controlled clinical trial studies published since 1999. Of the first authors of these studies, 18 (75%) were PhDs, 4 (17%) were MDs, 1 was a “behavioral scientist” and another could not be identified.

**Psychosocial Treatments of Adult Schizophrenia**
We identified 14 controlled clinical trial studies published since 2000. Of the first authors of these studies, 13 (93%) were either PhDs or ClinPsyD (a doctoral degree in Great Britain similar to a PhD), the degree of one author could not be identified.

**Psychosocial Treatments of Adult Bipolar Disorders**
We identified 24 controlled clinical trial studies published since 1990. Of the first authors of these studies, 12 (50%) were PhDs, 11 (46%) were MDs and 1 was a “research assistant”.

**Psychosocial Treatments of Adult Depression**
We identified 30 controlled clinical trial studies published since 1995. Of the first author of these studies, 17 (57%) were PhDs, 12 (40%) were MDs and one was a MSW (Masters in Social Work).

### TABLE 1
DEGREES OF FIRST AUTHORS OF CONTROLLED TREATMENT OUTCOME STUDIES FOR SELECTED ADULT BEHAVIOR DISORDERS

<table>
<thead>
<tr>
<th>Disorder</th>
<th># of Studies</th>
<th>% PhD</th>
<th>% MD</th>
<th>% Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>37</td>
<td>52</td>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>Alcohol</td>
<td>24</td>
<td>75</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>14</td>
<td>93</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Bipolar</td>
<td>24</td>
<td>50</td>
<td>46</td>
<td>4</td>
</tr>
<tr>
<td>Depression</td>
<td>30</td>
<td>57</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>Total/Mean %</td>
<td>119</td>
<td>62 (n=74)</td>
<td>29 (n=35)</td>
<td>8 (n=10)</td>
</tr>
</tbody>
</table>

1= Includes graduate students, social workers, authors with multiple degrees, and authors whose degree or profession could not be identified.