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Syndrome Co-Occurrence and Treatment Outcomes in Youth Mental Health Clinics

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Despite widespread speculation that syndrome co-occurrence undermines treatment outcomes, this hypothesis has not been fully examined within clinical care settings. To address this gap, the authors investigated the relation between syndrome co-occurrence and outcome among 325 clinically referred youths. For every syndrome, higher initial severity was predictive of greater treatment gains and higher posttreatment symptom levels; contrary to speculation in the literature, co-occurrence effects were rare and modest in size, accounting for 0.6% of outcome variance on average. The results suggest that co-occurrence, though common in youth clinical care, is not an obstacle to treatment success in most cases. In addition to its substantive findings, the study illustrates how a dimensional approach can be used to shed new light on co-occurrence in clinical care.

Keywords: usual care, syndrome co-occurrence, diagnostic comorbidity, treatment outcomes, youth psychotherapy

Comorbidity, or the co-occurrence of multiple psychological conditions, has been called "the premier challenge facing mental health professionals" (Kendall & Clarkin, 1992, p. 833). The evidence to date has established that psychological disorders do coexist at a rate beyond that expected by chance (Angold, Costello, & Erkanli, 1999), largely eliminating methodological factors as a major explanation for comorbidity. Angold and colleagues called for the field to move beyond simply studying rates of comorbidity to investigate the correlates and implications of comorbidity. Consistent with that call, the purpose of the present study was to investigate treatment outcome implications of syndrome co-occurrence among clinic-referred youth.

Understanding the consequences and correlates of co-occurrence is critical because of the sheer numbers of children impacted by this phenomenon. Several studies have found high rates of co-occurrence in community (e.g., Bird, Gould, & Staghezza, 1993) and clinical samples (e.g., Jensen & Weisz, 2002). Because of these high rates, co-occurrence plays a major role in the ongoing debates surrounding differences between research and practice in clinical psychology. A key difference between therapy in research trials and therapy in clinical practice is that research trials often focus on relatively homogeneous groups using treatments that have a narrow problem focus, whereas clinical practice often focuses on more heterogeneous groups with a broader, multiproblem focus (Weisz, Donenberg, Han, & Weiss, 1995). Indeed, a major criticism of the research-based treatment literature is that much of it excludes cases with co-occurring conditions even though high rates of comorbidity have been documented within clinical samples (e.g., Westen, Novotny, & Thompson-Brenner, 2004). In addition, one of many clinicians' primary concerns about research-tested manualized therapies is that such therapies cannot address the needs of clients with multiple problems (Addis, Wade, & Hughes, 1999). A hypothesis posited in many review articles (e.g., Birmaher et al., 1996; Jensen, Martin, & Cantwell, 1997) and reflected in the hypotheses of many empirical studies (e.g., Kazdin & Crowley, 1997; MTA Cooperative Group, 1999) is that co-occurrence of syndromes undermines treatment impact. However, surprisingly little empirical evidence has been brought to bear on this proposition to date, especially in the context of clinical care delivered outside research settings.

There are both empirical and conceptual bases for the perspective that co-occurrence undermines treatment effects. For example, data on the natural course of childhood disorders suggest that comorbidity is associated with worse outcomes (e.g., Nottelman & Jensen, 1995) than those obtained for single diagnoses, indicating that co-occurring syndromes may inherently be more resistant to change than isolated syndromes. Additionally, behaviors associated with one syndrome might interfere with efforts to treat another; for example, the inattentiveness associated with attention deficit hyperactivity disorder (ADHD)

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might interfere with learning skills needed to cope with depression or anxiety. There is some evidence in the usual care literature suggesting adverse effects of comorbid obsessive–compulsive disorder (Goodyer, Herbert, Secher, & Pearson, 1997), substance use, and anxiety disorders (Sanford et al., 1995) on outcomes for childhood depression.

It is possible, however, that co-occurrence among syndromes might actually have little significant impact on treatment. To the extent that treatments focus attention on the most critical elements of a particular syndrome, interference from other syndromes might not be a major factor. Research on structured, focused treatments does appear to support this possibility. Randomized clinical trials of cognitive–behavioral therapy (CBT) for depression (Jayson, Wood, Kroll, Fraser, & Harrington, 1998), CBT for childhood anxiety (e.g., Flannery-Schroeder, Suveg, Safford, Kendall, & Webb, 2004), and social skills and problem solving training for early-onset conduct problems (Webster-Stratton, Reid, & Hammond, 2001) have found no effects of comorbidity on outcomes. Similarly, Emslie and colleagues (1997) found that comorbidity was not predictive of relapse over a 12-month period among youths receiving usual care for depression.

Even some of the findings initially appearing to show detrimental effects of co-occurrence on outcome may not show such effects when examined more closely. For example, Brent and colleagues' (1998) finding that comorbid anxiety was linked to reduced treatment response among depressed adolescents disappeared when comorbidity was entered simultaneously with other predictors of outcome, including initial severity. In other studies (e.g., Clarke et al., 1992), a finding that one type of comorbidity is related to treatment outcomes is often accompanied by null results for other types of comorbidity.

Further complicating the picture is the fact that co-occurrence may actually enhance treatment impact in some instances. For example, it is possible that anxiety symptoms might facilitate treatment for some conditions; that is, children who feel anxiety about their current functioning may be more motivated to change and more responsive to interventions than children who feel no such anxiety. Consistent with this notion, the Multimodal Treatment Study of Children with ADHD (MTA; MTA Cooperative Group, 1999) and Rohde, Clarke, Lewinsohn, Seeley, and Kaufman's (2001) study of adolescent depression treatment found better treatment outcomes to be associated with comorbid anxiety disorders.

Differences in findings could be due to methodological differences among studies, including differences in assessment techniques, definitions of co-occurrence, or definitions of outcome. For example, some evidence exists that the effects of co-occurrence may vary depending on the timing of outcome measures (e.g., Rohde et al., 2001). Additionally, it may be that the effects of syndrome co-occurrence vary by syndrome type. Past investigations of co-occurrence have had limited opportunity to address such possibilities because they have primarily taken place in the context of clinical trials in which all subjects had the same targeted diagnosis.

Finally, differences in findings may be due to differences in whether investigators controlled for other important predictors of outcome, most notably initial severity. One possible explanation for the effects of co-occurrence is that children with co-occurring conditions simply have more severe psychopathology and that having a diversity of symptoms is less important than the sheer number of symptoms. Several studies have documented positive associations between co-occurrence and severity (e.g., McCauley et al., 1993). Support for the importance of this association to the investigation of the co-occurrence–outcome relationship can be found in several studies in which comorbidity was predictive of treatment outcomes only if the authors did not control for initial severity (e.g., Abramowitz & Foa, 2000; Brent et al., 1998).

The purpose of the present study was to investigate the relation among syndrome co-occurrence, initial symptom severity, and outcomes among children and adolescents seeking services in community outpatient mental health centers. Three types of outcomes were examined: (a) the amount of change during treatment, (b) symptom levels at the end of treatment, and (c) change in symptoms after treatment. A core question throughout the study was, To what extent does syndrome co-occurrence have an impact beyond initial severity?

The present study was designed to advance understanding of co-occurrence beyond previous evidence in five ways. First, because our sample was seeking services in a usual care setting, our study provided much-needed data on the effects of co-occurrence on outcomes for children in real-world clinical care conditions. Previous examinations of the effects of co-occurrence in usual care for youth have been limited to depressed samples. Second, our sample was composed of children referred for a wide array of conditions to allow us to make a broad-based analysis of the impact of a variety of patterns of co-occurrence on a variety of syndromes. Third, because the measure used in the present study, Achenbach's (1991) Child Behavior Checklist (CBCL), organizes symptoms into both individual syndromes and into broader measures of internalizing and externalizing behaviors, we could investigate the effects of co-occurrence both narrowly and broadly defined. Fourth, because the present study consisted of outcome measurement gathered both during and after treatment, it was possible to investigate the possibility that the effects of co-occurrence vary by the timing of outcome measures. Finally, the present study represents a methodological advance in that we used a novel, dimensional approach to the study of comorbidity. As discussed below, this approach has several advantages over traditional categorical approaches.

The Dimensional Approach to Co-Occurrence

Consistent with the currently prevailing categorical model of psychopathology based on the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision, *DSM–IV–TR*; American Psychiatric Association, 2000), traditional investigations of comorbidity have been conducted with a categorical approach, generally comparing single-diagnosis groups with their comorbid counterparts on variables of interest (e.g., a treatment outcome measure). However, a potentially useful alternative is to address the issue from a dimensional perspective. From this

perspective, the question of comorbidity is one of interactions:[1] Does the level of one syndrome affect the relation between another syndrome and a dependent variable of interest? Throughout this article, we refer to this approach as an investigation of *syndrome co-occurrence*, to distinguish it from approaches to *diagnostic comorbidity*.

This dimensional approach is depicted in Figure 1. Figure 1A represents the relation between initial severity in the Social Problems syndrome from the CBCL (Achenbach, 1991) and the level of Social Problems at the end of treatment at high and low initial levels of the CBCL Anxious/Depressed syndrome. At both levels of the Anxious/Depressed syndrome, initial severity of the Social Problems syndrome is positively related to the level of symptoms at the end of treatment, indicating a main effect for the Social Problems syndrome. The average values for both lines are the same, indicating that there is no main effect for the Anxious/Depressed syndrome. However, the relation between the initial severity and level of symptoms at the end of treatment becomes increasingly positive as Anxious/Depressed symptoms increase, indicating an interaction effect. This graphically illustrates co-occurrence of the Social Problems and Anxious/Depressed syndromes being related to higher Social Problems scores at the end of treatment, over and above the risk from initial severity in Social Problems syndrome. Figures 1B though 1D illustrate other patterns of results that could be obtained with this approach.

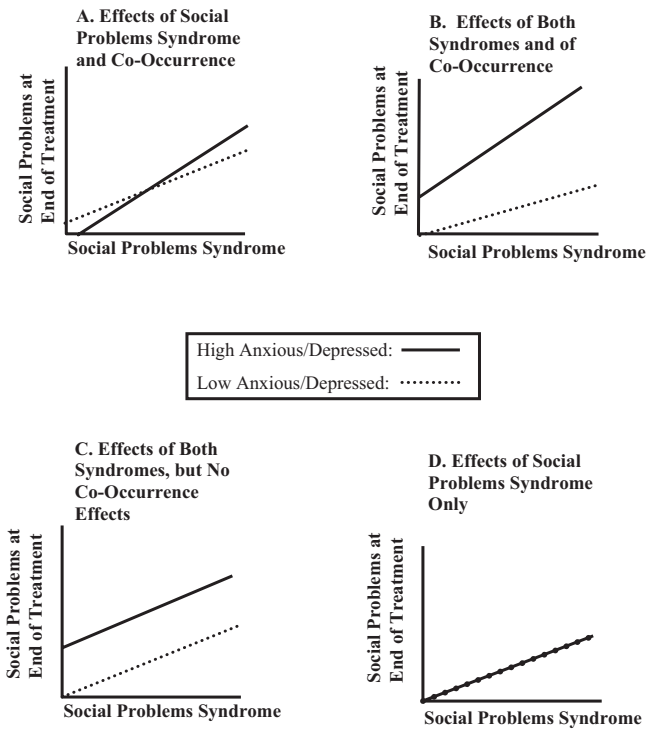

Figure 1. Illustrations of the dimensional approach to co-occurrence. Panel A depicts an effect of initial severity in Social Problems syndrome (positive slope for Social Problems), no effect of initial severity in the Anxious/Depressed syndrome (equal average values for the two Anxious/Depressed lines), and an effect of co-occurrence (differing Social Problems slopes at different values of Anxious/Depressed). Panel B depicts an effect of both syndromes (positive slope for Social Problems and higher average value for high scores on Anxious/Depressed) and co-occurrence. Panel C depicts an effect of both syndromes, but no-co-occurrence (the Social Problems slope is the same at different values of Anxious/Depressed). Panel D depicts an effect of Social Problems only (the average values and slopes of the Anxious/Depressed lines are equal).

This dimensional approach offers theoretical advantages over the categorical method. First, dimensional methods incorporate into the analysis the entire range of symptoms, including subsyndromal symptoms, and thus the entire sample of interest. Symptomatic undiagnosed cases are excluded from analyses by applying *DSM* symptom cutoffs, despite evidence that patients with undiagnosed cases often exhibit functional impairment (e.g., Angold, Costello, Farmer, Burns, & Erkanli, 1999). Second, studies in both the child and adult literature indicate that many *DSM* diagnoses may be better represented by a dimensional model than by dichotomous groupings (e.g., Hudziak, Wadsworth, Heath, & Achenbach, 1999; Kendler et al., 1996).

The dimensional approach also offers several statistical advantages. First, this approach maximizes power to detect the effects of co-occurrence, because the use of continuous variables enhances power by retaining the full range of information about the variable under study (Cohen, 1983) and by allowing use of the entire sample in every analysis. Additionally, dimensional measures of problem behaviors are generally more reliable than categorical ones (Cantwell, 1996). This is especially important in analyses involving interactions, because measurement error in the predictors may reduce power to detect interaction effects (Aiken & West, 1991).

Although the dimensional approach that we used in the present study has several advantages, it is a departure from the categorical approach that has prevailed to date (and in the prior literature reviewed above, which involved categorical approaches nearly exclusively). To our knowledge, the present study is the first in which the impact of syndrome co-occurrence on treatment outcome is examined with this dimensional approach.

Method

Subjects

Subjects were 325 children with an age range of 7–17 years ($M = 11.2$, $SD = 2.5$) drawn from six outpatient community mental health clinics in Southern California. Subjects were participants in a larger project investigating youth outpatient therapy. The sample was 65% male. The ethnic composition was 51% Caucasian, 16% African American, 15% Latino, and 18% self-identified as multiethnic or other, reflective of the population of children typically seen in community clinics in Southern California. At the initial study interview, 62.9% ($n = 225$) of the children were clinically elevated on at least one narrowband scale of the CBCL and 50.2% ($n = 163$) were elevated on more than one scale. The number and percentage of children falling above the clinical cutoff ($T = 70$) on each CBCL scale at intake are presented in Table 1.

[1] Although categorical approaches can be used to test comorbidity as an interaction between two diagnostic categories, researchers using traditional analyses generally have not done so.

Table 1
Descriptive Statistics and Correlations for Child Behavior Checklist Syndrome, Broadband Syndrome, and Total Problem Raw Scores

Syndrome	*T* scores ≥ clinical cutoff of 70														
	N	%	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Withdrawn	72	22.2	4.86	3.35	—	.37	.58	.38	.47	.38	.30	.33	.77	.35	.61
2. Somatic Complaints	69	21.2	2.89	3.05		—	.52	.24	.41	.30	.20	.21	.74	.22	.53
3. Anxious/Depressed	86	26.5	8.83	5.32			—	.49	.50	.45	.34	.57	.91	.54	.81
4. Social Problems	78	24.0	4.42	3.25				—	.42	.60	.26	.47	.47	.44	.66
5. Thought Problems	69	21.2	2.12	2.12					—	.55	.41	.49	.56	.50	.69
6. Attention Problems	96	29.5	8.00	4.44						—	.42	.50	.48	.52	.71
7. Delinquent Behavior	107	32.9	5.51	4.12							—	.64	.35	.82	.66
8. Aggressive Behavior	106	32.6	16.57	8.65								—	.49	.96	.83
9. Internalizing	112	34.5	15.69	9.23									—	.49	.82
10. Externalizing	120	36.9	22.08	11.72										—	.84
11. Total Problem Score	127	31.9	57.69	27.19											—

Note. All correlations are significant, $p < .0002$.

All subjects received the usual treatment provided by the outpatient clinics, consisting of a variety of services, including individual and group psychotherapy, family psychotherapy, and medication. The average length of treatment was 28.2 weeks ($SD = 23.0$; range = 1–100 weeks). Subjects were treated by 134 therapists across the six clinics. Children with mental retardation (IQ < 70) or psychotic symptoms and those whose treatment was court-ordered were excluded from the study. Because the present study involved studying change during and after treatment, children from the larger study sample who did not complete treatment before their last study interview and those who did not complete any follow-up interviews were also excluded.

Measures

CBCL (Achenbach, 1991). This widely used, standardized parent-report measure has 118 items that are rated on a 3-point scale (0–2). Extensive evidence of the reliability and validity of this measure exists (cf. Achenbach, 1991). Because *T* scores adjusted for age and gender can mask within-individual changes in symptoms, raw scores for the eight narrow-band syndromes, the two broadband syndromes, and the total problem scores were used in the analyses (Achenbach, 1991). The eight syndromes are Withdrawn, Somatic Complaints, Anxious/Depressed, Aggressive Behavior, Attention Problems, Delinquent Behavior, Social Problems, and Thought Problems. The two broadband scales are measures of overall Internalizing and Externalizing problems. The CBCL Total Problem raw score was used as the measure of overall severity. The child's mother figure served as the CBCL informant in 89.9% of the interviews. Sample means and correlations among the eight syndromes, the two broadband syndromes, and the Total Problem score are presented in Table 1.

Clinic records. Each child's existing clinic records were examined posttreatment to determine the treatment end date, which was defined as the last in-person contact the family had with the clinic. On average, subjects ended treatment 28.2 weeks after their Time 1 interview ($SD = 23.0$) and were followed up for an average of 69.0 weeks after treatment ended ($SD = 35.2$).

Sequence of the Investigation

During clinic intake, parents of consecutively referred children received a description of the study, and interested families provided consent to be contacted for an interview. Procedures for protecting human subjects prevented us from collecting data on families who did not participate, but more than 80% of those invited to participate agreed to do so. At the pretreatment (Time 1) interview, parents and children provided written consent and separately completed a battery of measures (the CBCL is the only Time 1 measure used in the present study). During the Times 2–4 interviews, parents and children again provided written consent and completed measures of child symptoms (CBCL). Parents were paid $50 for each interview, and children received a small prize or toy. Sixty-two families (19.1%) completed two interviews, 77 (23.7%) completed three interviews, and 186 (57.2%) completed all four interviews. Clinic records were reviewed after the Time 4 interview. All procedures were approved by the participating clinics and by the institutional review boards of the participating universities.

Data Analysis Plan

The data gathered had a hierarchical structure, with repeated measures nested within clients, who were nested within therapists and within clinics; multilevel or hierarchical linear modeling (HLM), using the HLM 6.02a software package (Raudenbush, Bryk, & Congdon, 2005), was therefore used to conduct the analyses. Before data analysis, we tested the need to account for this nesting by estimating the amount of variance in the outcome variables explained by therapist and clinic effects. Three-level models with participants nested within therapists and within clinics were fitted at each time point and for change scores between contiguous time points for each dependent variable (77 total analyses). In these models, the Wald tests for the therapist-level variability were significant in 21 of 77 analyses (all $ps < .01$). These effects were significant for at least one time point for every dependent variable. Significant clinic effects were only found in 1 analysis (1.3%). Because the latter result is approximately what would have been expected by chance, we decided to include only therapist nesting in the analyses.

To achieve an appropriate balance between Type I and Type II errors, we used two alpha levels. To control for possible Type I error, we used a Bonferroni correction, resulting in an alpha level of .0002. However, given the risk of Type II error associated with such a conservative alpha level, analyses significant at an alpha level of .01 are also reported.

Results

Syndrome Co-Occurrence and Change During Treatment

Because the Time 1 (initial severity) value of the syndrome being predicted was used as an independent variable, it could not also be included as a dependent variable in a growth curve representing treatment outcome.[2] Instead, the HLM 6.02a software package (Raudenbush et al., 2005) was used to generate the Empirical Bayes (EB) estimate of the level of symptoms present for each dependent variable at the end of treatment for each child. This was accomplished by fitting an unconditional piecewise model to the complete Times 1–4 data set with the intercept centered at each participant's treatment end date (separating the trajectories of change into change during treatment and change after treatment into two separate lines, centered at the treatment end date as outlined in Raudenbush & Bryk, 2002) and by having the program generate a residuals file with estimates of the intercept. Change in the eight individual CBCL syndromes, in the two broadband syndromes, and in overall severity (CBCL Total Problem score) between Time 1 and the treatment end date was then measured by computing a change score between the measured Time 1 values and the estimated values of these variables at the treatment end date.

For the analyses involving prediction of change in the individual syndrome scores, two-level hierarchical linear models, with subjects nested within therapists, were used to predict each syndrome change score from the value of that syndrome at Time 1, the value of one of the other syndromes at Time 1, and the interaction between the two. Because the subjects differed in the amount of time spent in treatment, weeks of treatment was added as a predictor to control for these differences. This resulted in 7 analyses for each syndrome being predicted, for a total of 56 analyses across all eight syndromes. Two additional analyses were conducted to predict change in each of the broadband scores from their co-occurrence.

For the 29 additional analyses predicting overall severity (CBCL Total Problem score) from all possible pairs of syndromes and the pairing of the broadbands, a fifth child-level predictor was entered that comprised the items from the Total Problem score that were not part of the predictors involved in the analyses (e.g., the CBCL items not contained in the Social Problems and Anxious/Depressed syndromes). This variable served to control for initial overall severity and is referred to as the *other severity variable*. The main effects of the two predictor syndromes or broadbands and the effects of the other severity variable were interpreted as the impact of initial severity.

Main effects of initial severity in the outcome variable being predicted were interpreted as the effects of initial severity and the interaction as the effects of the co-occurrence. Main effects of the outcome variable not being predicted were not of interest in this study because they represented neither initial severity nor co-occurrence. Additionally, these main effects were only significant in 6 out of the 261 analyses (only 2 after the Bonferroni correction) and therefore will not be reported. Significant interactions were probed using the methods outlined by Aiken and West (1991): obtaining simple slopes for the relationship between initial severity and treatment outcomes at 1 standard deviation above (β_{High}) and below (β_{Low}) the mean for initial severity of the co-occurring syndrome. There is no generally accepted standard for computing effect sizes in HLM; the reduction in unexplained variance in the change during treatment was computed for significant interaction terms following the guidelines suggested by Snijders and Bosker (1999).[3]

For all syndrome scores and for the broadband scores, initial severity in the syndrome being predicted was the strongest predictor of change during treatment (all $ps < .0002$). In all cases, higher initial severity was associated with greater improvement during treatment (i.e., higher initial scores were related to greater decreases). The proportion of variance accounted for by initial severity in the syndrome scores ranged from .36 for the Attention Problems syndrome to .69 for the Anxious/Depressed syndrome. Initial severity accounted for .59 of the variance in change in Internalizing problems and .48 of the variance in Externalizing problems.

The significant results for the relation between co-occurrence and the amount of change during treatment are summarized in Table 2. No significant interactions were obtained for the broadband scores. Significant interactions were obtained for the Social Problems, Thought Problems, Somatic Complaints, and Withdrawn syndromes only. These interactions were probed, and for all significant findings, the same pattern of results emerged. For example, children who initially scored low on the Anxious/Depressed syndrome had a stronger negative relationship between initial severity in the Social Problems syndrome ($\beta_{Low} = -.41$) and amount of change during treatment than children who initially scored high on the Anxious/Depressed syndrome ($\beta_{High} = -.27$). In other words, children who initially scored high on both syndromes had smaller treatment gains in Social Problems than children who initially scored high in Social Problems alone. Analogous patterns of results were obtained for all pairings listed in Table 2. However, only three of these results remained significant after the Bonferroni correction was applied.

In all analyses involving prediction of the CBCL Total Problem score from pairs of syndromes, their interaction, and the other

[2] Ideally, for the project analyses involving prediction of outcome from pairs of syndromes and their interactions, we would have used a single growth curve model, constructed of data from Times 1–4. However, in such models, Time 1 data are used both as a dependent variable, in the growth curve, and as an independent variable (initial severity), creating colinearity in the data. Such models require latent variable methods, with the model intercept used as an estimate of the Time 1 value of the variable being predicted, which is then used as a latent variable predictor in place of the measured value at Time 1 (Raudenbush & Bryk, 2002). Although it is possible to create latent variable models with the HLM software (Raudenbush et al., 2005), it is not possible to create an interaction term between these latent and measured variables in this program or in any other widely used multilevel modeling program. Because the present analyses required such interaction terms to represent the effects of syndrome co-occurrence, it was not possible to perform the analyses in these programs using a single growth curve.

[3] Snijders and Bosker (1999) outlined methods for computing estimates of the variance explained by predictors in hierarchical linear models. They noted that these estimates may indicate a decrease in explained variance; however if these decreases are less than .05, they can be considered a result of chance fluctuations rather than of model misspecification.

Table 2
Effects of Co-Occurrence of Child Behavior Checklist Syndromes on Treatment Outcomes

		Change during treatment			Posttreatment symptoms			Change after treatment		
Outcome variable (CBCL syndrome)	Co-occurring syndrome related to outcome	Proportion of variance explained	β_{Low}	β_{High}	Proportion of variance explained	β_{Low}	β_{High}	Proportion of variance explained	β_{Low}	β_{High}
Social Problems	Anxious/Depressed	.05**	−.41	−.27	.06**	.54	.74	*ns*		
	Somatic Complaints	.04**	−.40	−.27	.05**	.56	.74	*ns*		
	Thought Problems	.04**	−.40	−.28	.05*	.57	.73	*ns*		
	Attention Problems	.02*	−.42	−.32	.04*	.54	.65	*ns*		
Somatic Complaints	Social Problems	.04*	−.56	−.47	.01*	.38	.55	*ns*		
Delinquent Behavior	Aggressive Behavior	*ns*			*ns*			.01*	.002	−.002
Thought Problems	Social Problems	.02*	−.63	−.54	.03*	.33	.47	*ns*		
	Attention Problems	.03*	−.67	−.57	.03**	.24	.41	*ns*		
Withdrawn	Thought Problems	−.002*	−.53	−.42	.01*	.45	.60	*ns*		
	Attention Problems	.03*	−.54	−.43	.03*	.44	.58	*ns*		
Total Problem score	Delinquent and Aggressive Behaviors	*ns*			*ns*			.01*	.02	−.01

Note. CBCL = Child Behavior Checklist; β_{Low} = simple slope predicting outcome from initial severity for subjects 1 *SD* below the mean of the co-occurring syndrome; β_{High} = simple slope for subjects 1 *SD* above the mean of the co-occurring syndrome.
* $p < .05$. ** $p < .0002$. *ns* = $p > .05$.

severity variable, the other severity variable was the strongest predictor of change in total severity while children were in treatment, with higher initial severity associated with greater improvement (all *p*s $< .0002$). In addition, there were significant main effects for some of the syndromes, also in the direction of higher initial severity on the syndromes predicting greater change in treatment. Because the syndrome scores are part of the Total Problem score, these main effects can also be interpreted as the effects of severity. The proportion of variance in change in the Total Problem score accounted for by initial severity was .49. No interaction terms were significant, indicating that syndrome co-occurrence was not related to the amount of change in overall severity. The same pattern was found for co-occurrence of the broadband scores. Across all analyses for change during treatment, the average proportion of the variance accounted for by co-occurrence was .006.

Syndrome Co-Occurrence and Symptom Levels at the End of Treatment

To isolate the change that occurred after the end of treatment, we constructed piecewise linear growth models from the EB estimate of the level of symptoms at the end of treatment and Times 2–4 data (Raudenbush & Bryk, 2002). These models allow different parts of a growth curve to be predicted separately with separate parameters. In the present piecewise models, two time parameters were used at Level 1. The first time parameter represented the timing of the measures before the treatment end date. A second time parameter was coded to represent only the time after the treatment end date (change after treatment). The first time parameter was necessary for model construction but was not of conceptual interest in this study because it was calculated only for subjects who completed treatment after the Time 2 assessment, and it captured only part of those subjects' time in treatment (i.e., the time between Time 2 and the end of treatment). When constructed in this fashion, the intercept of the model represented the level of symptoms at the end of treatment and the slope of the change after treatment time parameter represented the amount of symptom change after the end of treatment. For these models, weeks in treatment, the syndrome and broadband scores, interaction term, and other severity variables were entered at Level 2 as child-level predictors of the intercept (symptoms at the end of treatment) and the change after treatment parameter.

For all syndrome and broadband scores, initial severity in the syndrome being predicted was the strongest predictor of the level of symptoms present at the end of treatment, with higher initial severity at Time 1 predicting higher levels of symptoms at the end of treatment (all *p*s $< .0002$). This pattern of results, combined with those presented for change during treatment, suggests that, although children with high initial severity changed more during treatment, they were still worse off relative to their peers at the end of treatment. The proportion of variance accounted for by initial severity in the syndrome scores ranged from .45 for the Somatic Complaints syndrome to .66 for the Aggressive Behavior syndrome. Initial severity accounted for .57 of the variance in change in Internalizing problems and .64 of the variance in Externalizing problems. No significant interactions were obtained for the broadband scores. Significant interaction terms were obtained for the Social Problems, Somatic Complaints, Withdrawn, and Thought Problems syndromes only. These findings are summarized in Table 2. For all significant interaction effects, the pattern of results obtained indicated that co-occurrence was related to higher posttreatment symptom levels. This pattern of results is represented in Figure 1A, indicating a more positive relationship between initial severity in Social Problems and level of Social Problems at the end

of treatment for children who initially scored high on the Anxious/Depressed syndrome (β_{High} = .74) than children who initially scored low on the Anxious/Depressed syndrome (β_{Low} = .54). As noted in Table 2, only three of these results remained significant after the Bonferroni correction was taken into account.

As with change during treatment, the *other severity* variable was the strongest predictor of the posttreatment level of overall severity, the CBCL Total Problems score, with higher initial severity predicting higher posttreatment levels (all *p*s < .0002). In addition, there were some significant main effects of the narrowband scores, which were also in the direction of higher initial symptom levels predicting higher posttreatment symptom levels. None of the interactions was significant, indicating that syndrome co-occurrence was not related to the level of overall severity at the end of treatment. The same pattern of results was obtained for the pairing of the Internalizing and Externalizing broadband syndromes. Across all analyses for posttreatment symptom levels, the average proportion of the variance accounted for by co-occurrence was .01.

Syndrome Co-Occurrence and Change After Treatment

Unlike the findings for change during treatment or level of symptoms at the end of treatment, initial severity was related only to change after treatment in the Aggressive Behavior, Attention Problems, and Thought Problems syndrome scores and in the Externalizing broadband. Higher initial severity on these scales was predictive of more improvement after the end of treatment, although none of these associations remained significant after the Bonferroni correction was taken into account. As summarized in Table 2, there were only two significant effects of co-occurrence on changes after treatment. Co-occurrence between the Delinquent and Aggressive Behavior syndromes was related to relapse or worsening of symptoms after treatment in both the Delinquent Behavior syndrome and the Total Problem score. Neither of these effects remained significant when the Bonferroni correction was taken into account. Across all analyses for change after treatment, the average proportion of the variance accounted for by co-occurrence was .001.

Discussion

The purpose of the present study was to assess the impact of co-occurrence on the outcomes of services provided to children under the conditions of real-world clinical care. These outcomes were measured in three ways: the amount of change that occurred during treatment, the level of symptoms present at the end of treatment, and change after the end of treatment. For change during treatment and posttreatment levels of symptoms, initial severity in the outcome variable being predicted was the strongest predictor of outcome in all syndrome and broadband scores and in total severity. Children who were initially high in severity changed more during the course of treatment but at the end of treatment still had higher symptom levels relative to their peers. Unlike the findings for initial severity, and contrary to the assumptions of many in the field, co-occurrence was not a significant predictor of outcomes in most analyses. Co-occurrence effects were found in only 20 of a total of 261 analyses, and only 6 of these remained significant after a Bonferroni correction for the large number of analyses was conducted.

Inspection of the co-occurrence findings reveals patterns both in the types of co-occurrence that seem to be particularly detrimental and in the syndromes that appear to be vulnerable to the effects of co-occurrence. For example, co-occurrence with the Attention Problems syndrome was associated with worse outcomes for three out of the seven other syndrome scores, and co-occurrence with the Thought Problems and Social Problems syndromes was predictive of worse outcomes for two other syndromes. In terms of syndromes for which co-occurrence might be particularly detrimental, the most striking finding concerns the Social Problems syndrome. Four out of the seven types of co-occurrence were associated with worse outcomes for this syndrome. Finally, in only one case was co-occurrence predictive of outcomes for an externalizing syndrome, suggesting that these problems might be especially robust to co-occurrence effects.

There are several possible explanations for these patterns. First, these effects could be due to the nature of the syndromes themselves. For example, attention problems might interfere with a child's ability to attend in therapy, leading to worse outcomes. A second explanation for these effects could be related to which problems were the focus of treatment. It may be that difficulties like attention problems, for example, which interfere with academics, might be more worrisome to parents and therefore more likely to be the focus of treatment. In the presence of these symptoms that parents perceive as more impairing, co-occurring symptoms like social problems might evoke less concern, be less likely to become a focus of treatment, and improve less in treatment. Finally, the effects of co-occurrence might be affected by the nature of services delivered. For example, therapists might be more likely to focus treatment efforts on parents or teachers when children present with Externalizing symptoms. It may be that outcomes for Externalizing syndromes were largely unaffected by the presence of co-occurrence because child-level co-occurrence had no effect on these parent- or teacher-level interventions.

Although these patterns concerning detrimental effects of co-occurrence are interesting, the vast majority of analyses did not indicate significant co-occurrence effects. Co-occurrence between the broadband measures of Internalizing and Externalizing problems was not related to outcomes, and only a single significant co-occurrence effect was obtained for overall severity. In addition, the effects of initial severity on change after the end of treatment were not as strong, and co-occurrence was predictive of change after treatment in only two cases. When co-occurrence effects were found, they were small, explaining less than .05 of the variance in outcomes, and few remained significant when we controlled for the large number of analyses conducted. Averaging across all analyses, co-occurrence only accounted for .006 of the variance in outcomes.

Co-occurrence has been a key issue in the debate surrounding the gap between clinical research and clinical practice, with a major assumption being that co-occurrence leads to worse outcomes. The results of the present study suggest that co-occurrence does not have a strikingly large effect on outcomes and, for most psychotherapy outcomes, cannot be used to distinguish successful from unsuccessful cases in these usual care settings for children. Taken together with existing studies showing that many manual-

ized treatments are also equally effective in the presence of co-occurrence (e.g., Flannery-Schroeder et al., 2004; Jayson et al., 1998; Webster-Stratton et al., 2001), the results of the present study suggest that perhaps this concern has been overstated. These findings are at odds with some of the existing literature reporting worse or better outcomes associated with co-occurrence (e.g., Goodyer et al., 1997; MTA Cooperative Group, 1999), as well as with much of the discussion about this issue within the field, which assumes that co-occurrence should be associated with worse outcomes. There are several possible reasons for this confusion in the literature, many of which were addressed in the present study.

The first reason for mixed results on this topic may be that there is variability in whether investigators controlled for initial severity. Initial severity was controlled for in the present investigation in tests of whether co-occurrence was predictive of treatment outcomes, and relatively few co-occurrence effects were identified. As discussed earlier, two prior investigations found that the relation between co-occurrence and treatment outcomes disappeared when initial severity was included as a covariate in their analyses (Abramowitz & Foa, 2000; Brent et al., 1998), indicating that inclusion of initial severity is a requirement for an accurate understanding of the unique contributions of co-occurrence. Many previous investigators of the relation between co-occurrence and outcomes have not controlled for initial severity in their analyses (e.g., Emslie et al., 1997; Flannery-Schroeder et al., 2004; MTA Cooperative Group, 1999). Given the association found in this study between higher initial severity and treatment outcomes, it may be that the prior investigators have confounded the effects of initial severity and comorbidity. However, controlling for initial severity does not entirely account for the differences among studies. Several of the studies that have found worse or better outcomes associated with co-occurrence did control for initial severity (e.g., Clarke et al., 1992; Goodyer et al., 1997; Rohde et al., 2001; Sanford et al., 1995), and several of the studies that have found no association between co-occurrence and outcomes did not control for initial severity (e.g., Emslie et al., 1997; Flannery-Schroeder et al., 2004; Jayson et al., 1998).

A second reason for the confusion in the field may involve the types of co-occurrence studied. In previous studies, investigators have been limited in their ability to take a broad look at the impact of co-occurrence, given their reliance on samples recruited for a single problem domain. It may be that some studies have found no effects of co-occurrence because of a failure to assess or include important types of co-occurrence. It may also be that some studies find effects of co-occurrence and others do not simply because of differing measures of psychopathology. The present study, with a large sample of children recruited for a multitude of problems, allowed comparisons between different types of co-occurrences that have not previously been possible with samples recruited for a single problem. The measure of co-occurrence and outcome used in the present study, the CBCL (Achenbach, 1991), is a broad-based measure of childhood psychopathology that includes most of the key domains of concern to families, researchers, and clinicians. The present finding that most patterns of co-occurrence among these domains do not appear to have an impact on treatment outcomes is encouraging, given the representative nature of the domains and the widespread impact of these problems for children.

A third reason for differences across studies in their co-occurrence findings may relate to differences in the treatments studied. Much of the concern regarding the impact of co-occurrence on treatment outcomes has surrounded the appropriateness of single-problem treatment manuals for use with clients who have multiple problems (e.g., Westen, Novotny, & Thompson-Brenner, 2004). The existing literature has mainly focused on these manualized treatments in assessing whether co-occurrence affects outcomes. We know from our direct experience with the clinics involved that the present sample did not receive manualized treatments. Therefore, it may be that the clinicians involved in treating the present sample used more flexible, multifaceted treatment approaches with these clients with multiple problems and therefore that co-occurrence had little impact on outcomes in the present sample, in part because co-occurrence was addressed as a part of treatment. A useful next step for the field would be to investigate which treatments seem to work best with children with co-occurrence in various forms and whether flexible or multipronged approaches might be important for such children.

Fourth, null findings often lead to questions about the power to detect effects. One possibility is that studies that have failed to find effects of co-occurrence simply did not have the power to do so. The present study was designed to have maximal power to detect co-occurrence effects. First, the dimensional approach to co-occurrence used in the present study added additional power not possessed by studies relying on traditional, categorical approaches. Also, as reflected in the above analyses, the present sample provided the power to detect very small effects of co-occurrence when present. In fact, the present sample represented one of the largest samples used to investigate this question to date, surpassed in the child literature only by the MTA study (MTA Cooperative Group, 1999). Therefore, the results of this study were not likely to have been due to insufficient power.

In sum, the present study had several strengths in relation to issues that might contribute to mixed findings on the impact of co-occurrence in the extant literature. The strengths include appropriate inclusion of initial severity as a predictor in the analyses, use of a sample with a broad range of psychopathology, and use of a novel analytic approach that maximizes power to detect effects of co-occurrence. In addition, this study used a sample receiving services in real-world practice settings, which is a population that has not received much attention in the literature, especially in the study of the impact of co-occurrence. Also, the study included follow-ups over a 2-year period, allowing the investigation of changes that occurred both during treatment and after the end of treatment. Finally, using the CBCL as the measure of co-occurrence has utility because it is widely used in clinical settings and therefore maps onto data available for use by many clinicians; the same cannot be said for the results of diagnostic interviews, which often do not map onto the diagnoses assigned in clinical practice (Jensen & Weisz, 2002).

However, in addition to these strengths, the study had some limitations that warrant attention in the interpretation of results. First, by relying on the CBCL, we were unable to investigate some forms of co-occurrence that have been shown previously to be important in relation to treatment outcomes. For example, evidence suggests that comorbidity between anxiety and depression, which are treated as a single construct on the CBCL, may be

associated with worse (e.g., Clarke et al., 1992) or better (Rohde et al., 2001) outcomes. A second, related limitation is that the CBCL treats as separate some syndromes that are considered to be a single construct under the *DSM* system (American Psychiatric Association, 2000), such as Aggressive and Delinquent Behaviors. Because we relied on the CBCL as the primary outcome measure, the present study was also limited to a parent-reported, paper-and-pencil measure of child psychopathology. Future research incorporating multiple reporters and additional forms of assessment, such as behavioral observations, would allow exploration of possible method or reporter confounds.

Additional limitations of the study are related to the nature of studying usual care. The purpose of the present investigation was to study the outcomes of community clinical care administered "as usual," without the interference of the research project. Because children received varying amounts of treatment, it was not possible to have a posttreatment assessment point similar to those found in traditional efficacy trials. Because the subjects were assessed on the basis of the time that passed since the intake, the posttreatment outcomes were estimated values based on the pattern of change found over the entire study, rather than measured values. It is possible that the results would have differed had the children been assessed immediately after treatment.

Finally, the many strengths of the dimensional approach that we used are accompanied by at least one limitation. Defining co-occurrence as an interaction term and initial severity as a main effect means that one cannot test for the effects of co-occurrence without controlling for initial severity because the interaction term cannot be tested without the associated main effects.

Despite these limitations, the findings of the present study have several important implications for both clinicians and researchers. First, in terms of clinical implications, this study highlights the association between severity and treatment outcomes. At first glance, the finding that higher initial severity predicted greater improvement during treatment and continued improvement after treatment might indicate that perhaps severity should not be of great concern to clinicians. However, it is likely that these findings can be attributable to the fact that either more severe cases have more room for improvement or that these decreases resulted from regression to the mean. As in any case in which two measures in time are not perfectly correlated, individuals with the most extreme scores before treatment would be expected to score closer to the mean at the second assessment (Campbell & Kenny, 1999). In addition, despite the fact that children with high initial severity changed more during treatment, these children still ended treatment more disturbed than their peers. This finding was consistent across syndrome types and for overall severity. Therefore, severity seems to be an important factor to consider in treatment planning, because children with high initial severity may be less likely to experience sufficient change to move into the subclinical range.

Second, the significant results for co-occurrence may indicate that clinicians should pay particular attention to children with Attention Problems syndrome to ensure that any co-occurring syndromes are also receiving clinical attention. This may be especially important in the case of Social Problems, which may receive little attention in the presence of co-occurring symptoms.

These results also have several implications for researchers. First, this study illustrates for researchers a methodological alternative to traditional, categorical *DSM*-based approaches to the study of co-occurrence. As discussed in the introduction, this dimensional approach has several theoretical and statistical advantages over traditional, categorical approaches. Second, this study highlights the importance of including initial severity as a covariate in analyses involving prediction from co-occurrence. The association between co-occurrence and severity means that researchers who fail to control for initial severity risk finding spurious associations between co-occurrence and other variables, simply because of their mutual relationships to severity.

Finally, the present findings indicate that, in general, co-occurrence did not seem to impact usual care outcomes over and above the effects of initial severity. An important next step in understanding the relation between co-occurrence and outcomes in clinical practice settings is to explore which practices clinicians in these settings use to address co-occurrence. It may be that these clinicians use a wider variety of treatment techniques in the presence of co-occurrence or make other adjustments to their treatment practices. Future research characterizing the treatment techniques used by practicing clinicians in response to co-occurrence and testing the effects of these techniques could provide useful guidance to both clinicians and designers of manualized treatments in how best to work with this challenging population.

References

Abramowitz, J. S., & Foa, E. B. (2000). Does major depressive disorder influence outcome of exposure and response prevention for OCD? *Behavior Therapy, 31,* 795–800.

Achenbach, T. (1991). *Manual for the Child Behavior Checklist 4–18 and 1991 profile*. Burlington: University of Vermont Department of Psychiatry.

Addis, M. E., Wade, W., & Hughes, C. (1999). Barriers to dissemination of evidence-based practices: Addressing practitioners' concerns about manual-based psychotherapies. *Clinical Psychology: Science and Practice, 6,* 430–441.

Aiken, L., & West, S. (1991). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Angold, A., Costello, E., Farmer, E., Burns, B., & Erkanli, A. (1999). Impaired but undiagnosed. *Journal of the American Academy of Child & Adolescent Psychiatry, 38,* 129–137.

Angold, A., Costello, E. J., & Erkanli, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 40,* 57–87.

Bird, H., Gould, M., & Staghezza, B. (1993). Patterns of diagnostic comorbidity in a community sample of children aged 9 through 16 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 361–368.

Birmaher, B., Ryan, N. D., Williamson, D. E., Brent, D. A., Kaufman, J., Dahl, R. E., et al. (1996). Child and adolescent depression: A review of the past 10 years. Pt. 1. *Journal of the American Academy of Child and Adolescent Psychiatry, 35,* 1427–1439.

Brent, D., Kolko, D., Birmaher, B., Baugher, M., Bridge, J., Roth, C., & Holder, D. (1998). Predictors of treatment efficacy in a clinical trial of three psychosocial treatments for adolescent depression. *Journal of the American Academy of Child and Adolescent Psychiatry, 37,* 906–915.

Campbell, D. T., & Kenny, D. A. (1999). *A primer on regression artifacts: Methodology in the social sciences.* New York: Guilford Press.

Cantwell, D. (1996). Classification of child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 37,* 3–12.

Clarke, G., Hops, H., Lewinsohn, P. M., Andrews, J., Seeley, J. R., & Williams, J. (1992). Cognitive–behavioral group treatment of adolescent depression: Prediction of outcome. *Behavior Therapy, 23,* 341–354.

Cohen, J. (1983). The cost of dichotomization. *Applied Psychological Measurement, 7,* 249–253.

Emslie, G. J., Rush, J., Weinberg, W. A., Gullion, C. M., Rintelmann, J., & Hughes, C. W. (1997). Recurrence of major depressive disorder in hospitalized children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 36,* 785–792.

Flannery-Schroeder, E., Suveg, C., Safford, S., Kendall, P. C., & Webb, A. (2004). Comorbid externalising disorders and child anxiety treatment outcomes. *Behaviour Change, 21,* 14–25.

Goodyer, I., Herbert, J., Secher, S., & Pearson, J. (1997). Short-term outcome of major depression: I. Comorbidity and severity at presentation as predictors of persistent disorder. *Journal of the American Academy of Child & Adolescent Psychiatry, 36,* 179–187.

Hudziak, J. J., Wadsworth, M. E., Heath, A. C., & Achenbach, T. M. (1999). Latent class analysis of child behavior checklist attention problems. *Journal of the American Academy of Child & Adolescent Psychiatry, 38,* 985–991.

Jayson, D., Wood, A., Kroll, L., Fraser, J., & Harrington, R. (1998). Which depressed patients respond to cognitive behavioral treatment? *Journal of the American Academy of Child & Adolescent Psychiatry, 37,* 35–39.

Jensen, A. L., & Weisz, J. R. (2002). Assessing match and mismatch between practitioner-generated and standardized interview-generated diagnoses for clinic-referred children and adolescents. *Journal of Consulting and Clinical Psychology, 70,* 158–168.

Jensen, P. S., Martin, D., & Cantwell, D. P. (1997). Comorbidity in ADHD: Implications for research, practice, and *DSM–IV*. *Journal of the American Academy of Child & Adolescent Psychiatry, 36,* 1065–1079.

Kazdin, A. E., & Crowley, M. J. (1997). Moderators of treatment outcome in cognitively based treatment of antisocial children. *Cognitive Therapy and Research, 21,* 185–207.

Kendall, P., & Clarkin, J. (1992). Introduction to special section: Comorbidity and treatment implications. *Journal of Consulting and Clinical Psychology, 60,* 833–834.

Kendler, K. S., Eaves, L. J., Walters, E. E., Neale, M. C., Heath, A. C., & Kessler, R. C. (1996). The identification and validation of distinct depressive syndromes in a population-based sample of female twins. *Archives of General Psychiatry, 53,* 391–399.

McCauley, E., Myers, K., Mitchell, J., Calderon, R., Schloredt, K., & Treder, R. (1993). Depression in young people: Initial presentation and clinical course. *Journal of the American Academy of Child & Adolescent Psychiatry, 32,* 714–722.

MTA Cooperative Group. (1999). Moderators and mediators of treatment response for children with attention-deficit/hyperactivity disorder. *Archives of General Psychiatry, 56,* 1088–1096.

Nottelmann, E., & Jensen, P. S. (1995). Comorbidity of disorders in children and adolescents: Developmental perspectives. *Advances in Clinical Child Psychology, 17,* 109–155.

Raudenbush, S., & Bryk, A. (2002). *Hierarchical linear models* (2nd ed.). Thousand Oaks, CA: Sage.

Raudenbush, S., Bryk, A., & Congdon, R. (2005). *HLM 6: Hierarchical linear and nonlinear modeling.* Chicago: Scientific Software.

Rohde, P., Clarke, G. N., Lewinsohn, P. M., Seeley, J. R., & Kaufman, N. K. (2001). Impact of comorbidity on a cognitive–behavioral group treatment for adolescent depression. *Journal of the American Academy of Child & Adolescent Psychiatry, 40,* 795–802.

Sanford, M., Szatmari, P., Spinner, M., Munroe-Blum, H., Jamieson, E., Walsh, C., & Jones, D. (1995). Predicting the one-year course of adolescent depression. *Journal of the American Academy of Child & Adolescent Psychiatry, 34,* 1618–1628.

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling.* Thousand Oaks, CA: Sage.

Webster-Stratton, C., Reid, J., & Hammond, M. (2001). Social skills and problem-solving training for children with early-onset conduct problems: Who benefits? *Journal of Child Psychology and Psychiatry and Allied Disciplines, 42,* 943–952.

Weisz, J., Donenberg, G., Han, S., & Weiss, B. (1995). Bridging the gap between laboratory and clinic in child and adolescent psychotherapy. *Journal of Consulting and Clinical Psychology, 63,* 688–701.

Westen, D., Novotny, C. M., & Thompson-Brenner, H. (2004). The empirical status of empirically supported psychotherapies: Assumptions, findings, and reporting in controlled clinical trials. *Psychological Bulletin, 130,* 631–663.

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