

Does Youth Psychotherapy Improve Academically Related Outcomes? A Meta-Analysis

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To better understand the impact of psychotherapy on youth academic performance, the authors located and examined 83 studies of youth psychotherapy that contained 102 treatment comparisons. Results revealed a $d = 0.46$ overall effect size, with a $d = 0.50$ effect size for mental health outcomes, and a $d = 0.38$ effect size for academically related outcomes. Academically related outcomes were further categorized into teacher-rated classroom behavior ($d = 0.26$), academic achievement ($d = 0.36$), environmentally related outcomes ($d = 0.26$), and self-reported academically related outcomes ($d = 0.59$). Each of these effect sizes differed significantly from zero, and the 4 academically related categories were homogeneous. Participant racial and ethnic diversity and age were explored as moderators. The results point to psychotherapy benefiting student academics, regardless of age. Ethnically diverse participant groups in the studies fared better academically than did nondiverse groups. Implications discussed include counseling psychologists maintaining a holistic view of youth and of working more closely with educators.

Keywords: psychotherapy, youth, efficacious, mental health, academic achievement

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Counseling psychologists have shown important support for the academically related outcomes of youth. For example, McWhirter, Hackett, and Bandalos (1998) used academic achievement as part of a structural model predicting the educational and career expectations of Mexican American high school girls; Navarro, Flores, and Worthington (2007) used social-cognitive career theory to model math and science goals for Mexican American middle-school students; Kenny, Blustein, Haase, Jackson, and Perry (2006) found that higher levels of career planfulness and expectations at the beginning of the school year were associated with high levels of school engagement over the course of the year. However, some issues, such as the linkage between youth psychotherapy and academically related outcomes, have not received sufficient attention. Youth mental health remains one of the least explored components of academic achievement (Becker & Luthar, 2002). The aim of the present study was to perform a meta-analysis on the efficacy of youth psychotherapeutic interventions on mental health and academically related outcomes.

Efforts by counseling psychologists and other mental health professionals to provide psychotherapeutic services to K–12 youth are to some extent threatened by concerns for raising academic

standards and closing the achievement gap, as there is a perceived competition for scarce resources. If psychotherapy can be shown to positively impact academically related outcomes, then it can be seen as a potentially effective tool in raising academic standards and closing of the achievement gap. Such an idea is supported at a theoretical level by Walsh, Galassi, Murphy, and Park-Taylor (2002), who suggested the importance of developmental contextualism in working with youth in schools. The developmental-contextualism framework emphasizes the dynamic relationship between youth and their environments; factors that improve outcomes in one domain are seen as improving outcomes in the other domain (Lerner, 2002). The framework suggests that any given phenomenon arises not independently, but in concert with other change processes. Persons develop within a dynamic context. As one aspect of a person's life changes, others will, too. Consequently, developmental contextualism supports the cross-pollination of success between the domains of mental health and academic achievement.

The historical separation of mental health concerns from academic concerns for K–12 youth parallels the separation of psychotherapy from career counseling for adults. Richardson (1996) blames this separation on a series of false conceptual splits: (a) the false dichotomy between normal and pathological personality functioning, (b) the tendency to split a person into component parts based on internal personality factors, rather than to see them as a dynamic whole, and (c) the tendency to split people based on external factors, such as a public or career self and a private or personal self. These false splits that separate adult career counseling and psychotherapy likewise underlie the separation of mental health and academic counseling for K–12 students. To address these false splits, Richardson suggests that psychotherapy and

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career counseling be seen as sharing the same goal, to find meaning in all aspects of the client's life. Showing that psychotherapy improves academically related outcomes would facilitate this new approach.

In addition to Richardson (1996), Blustein and Spengler (1995) outlined some of the major theories that bridge psychotherapy to career counseling. For example, within models that emphasize the person–environment fit, career interventions can be conceptualized as a subset of psychotherapy; within social learning theory, both mental health and career counseling address anxiety in their clients; and within life-span developmental theories, the nature of counseling extends from the situational (career) needs to the personal (individual personality). Additionally, present studies on how families and parents influence career development show an interdependence between career counseling, personal counseling, family support factors, and academic issues (Whiston & Keller, 2004). Specific active research in this area includes family influences on math and science career interests in sixth graders (Turner, Steward, & Lapan, 2004) and parent influences on the career and academic futures of seventh graders enrolled in low-achieving schools (Usinger, 2005).

Previous Meta-Analyses

A number of comprehensive meta-analyses have consistently documented the efficacy of youth psychotherapy for mental health outcomes (Casey & Berman, 1985; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). These and other related meta-analyses are shown in Table 1. In the most recent of these, Weisz et al. (1995) calculated $d = 0.54$ as an estimate of the overall efficacy of youth psychotherapy across all disorders. Yet, in Weisz et al.'s (1995) seminal study, the impact on academically related outcomes was not measured. The authors wrote, "We dropped academic outcomes because so many factors (e.g., intelligence)

other than psychopathology could be responsible for poor academic performance that it seemed inappropriate to base tests of psychotherapy efficacy on such outcomes" (p. 455). Thus, academically related outcomes were presumed to be in quite a different domain than mental health outcomes. This mindset has persisted for psychologists who have documented the efficacy of youth psychotherapy within mental health settings and differs only slightly for those who have analyzed the efficacy of psychotherapy within a school setting.

Some researchers who have studied psychotherapy within a school setting have addressed both mental health and academic domains. Prout and DeMartino (1986), examining 33 published studies of psychotherapy that were conducted in a school or that addressed school-related problems, found an overall effect size of $d = 0.58$. Their findings included both mental health and academically related outcomes. However, only 22% of the measures addressed achievement or problem-solving skills. Thus, the majority of the effect resulted from mental health measures. Furthermore, they reported their results by each measure, not by each study, so their analysis did not specify if the mental health and academic measures came from studies in which both types of outcomes were measured or from studies in which only one or the other were measured. Also, 9% of measures involved observed classroom behaviors, but these were not separated into mental health observations (e.g., student often appears sad in class) and academic observations (e.g., time on task), again making it difficult to compare mental health outcomes vis-à-vis academically related outcomes.

Prout and Prout (1998) updated Prout and DeMartino (1986). They reported an analysis of 17 additional studies of youth psychotherapy that yielded an effect size of $d = 0.91$ for mental health outcomes. From this information, and looking at Table 1, estimates of efficacy involving youth interventions range from as low as McLeod and Weisz's (2004) estimate from dissertations of $d = 0.23$ to as high as Prout and Prout's $d = 0.91$. Thus, studies have covered a somewhat wide range of values, although always positive. Regarding academically related outcomes, Prout and Prout (1998) wrote:

Although a small number of measures were reviewed/examined, it is noted that performance measures, typically academic measures, showed no response to treatment. The small number of measures precludes any meaningful generalization, but does at least raise the question of the relationship of therapeutic interventions influencing academic status. (p. 133)

So, although the issue was addressed, the study did not support the idea that psychotherapy significantly impacts academically related outcomes, although clearly there was not adequate data to address this issue comprehensively.

Thus, although previous reviews have examined the efficacy of youth psychotherapy interventions on mental health, an investigation with a sufficient corpus of studies to estimate the impact of these interventions on youth's academically related outcomes has been lacking. A study of this kind would answer Quintana and Minami's (2006) call for meta-analytic studies that pertain to the important issues facing counseling psychologists. Our purpose was to provide such a meta-analysis. We hypothesize that among studies in which youth psychotherapy interventions report both mental health and academically related outcomes, the aggregate

Table 1
Related Meta-Analyses, Ordered by Focus and Then Year

| Focus of study | Authors | Year | d |
|--|--------------------------------------|------|------|
| Adult psychotherapy | Lambert & Bergin | 1994 | 0.82 |
| Youth psychotherapy—children only | Casey & Berman | 1985 | 0.71 |
| Youth psychotherapy | Weisz, Weiss, Alicke, & Klotz | 1987 | 0.79 |
| Youth psychotherapy | Kazdin, Bass, Ayers, & Rodgers | 1990 | 0.88 |
| Youth psychotherapy—older methods | Weisz, Weiss, Han, Granger, & Morton | 1995 | 0.71 |
| Youth psychotherapy—newer methods | Weisz, Weiss, Han, Granger, & Morton | 1995 | 0.54 |
| Youth psychotherapy—dissertations only | McLeod & Weisz | 2004 | 0.23 |
| Youth psychotherapy in schools | Prout & DeMartino | 1986 | 0.58 |
| Youth psychotherapy in schools | Prout & Prout | 1998 | 0.91 |
| Youth psychotherapy for depression | Michael & Crowley | 2002 | 0.72 |
| Youth psychotherapy for depression | Weisz, McCarty, & Valeri | 2006 | 0.34 |

effect size for academically related outcomes will be significantly greater than zero. Additionally, we explore the moderators of participant racial and ethnic diversity and age.

Method

Criteria for Study

To be included in the meta-analytic review, a study had to meet the following requirements: (a) the study had to be a *psychotherapy* intervention, (b) the study had to have included a *mental health outcome measure* as part of the evaluation of the intervention, (c) the study had to have included an *academically related outcome measure* as part of the evaluation of the intervention, (d) the study displayed descriptive statistical information for outcomes, (e) samples of participants needed to be from ages 5 to 18 years (studies with anyone 20 years old or older, or 3 years old or younger were excluded; a few 19-year-olds or 4-year-olds were allowed, as long as they were not more than 10% of total participants), (f) random assignment of participants to at least one treatment group and at least one untreated, waitlist, minimally treated, or active placebo control group. In studies in which there was one or more drug-related treatments, one or more nondrug-related psychotherapy treatments, and a control group, the treatments involving drugs were dropped; however, the nondrug treatment comparisons to the control group were maintained.

Psychotherapy defined. Consistent with literature in counseling psychology (Ahn & Wampold, 2001; Lakey, Cohen, & Neely, 2008; Patterson, Uhlin, & Anderson, 2008), *counseling* and *psychotherapy* were used as interchangeable terms. Within the child-clinical psychology literature (Kazdin et al., 1990; Weisz et al., 1987, 1995), the definition used focused on interventions intended to reduce psychological distress, decrease self-defeating behaviors, or increase adaptive behaviors through counseling. This definition of psychotherapy was used, as it allows for interventions that focus less on pathology and more on building strengths, which is consistent with the values of counseling psychology. It includes counseling through structured or unstructured interactions, training programs, or predetermined treatment plans. Treatments involving drugs, interventions using only reading, teaching or tutoring intended only to increase knowledge of a specific subject, interventions involving only relocation, and exclusively preventive interventions intended to prevent problems in youngsters considered to be at risk were excluded. Therapists had to be professionals and/or graduate students trained in a mental health graduate program. Interventions performed by teachers or parents were not included.

Mental health outcome measure. A *mental health outcome measure* was defined as an instrument that assessed the psychological well-being of a youth (e.g., trait anxiety scale, teacher rating of student depression, social perception assessment, self-reported impulse control, self-reported assessments of mood, trait anger, self-reported self-esteem, etc.).

Academically related outcome measure. An *academically related outcome measure* was defined as an instrument that assessed a construct directly related to the current or future academic performance of a youth (e.g., teacher-rated on-task behavior in classrooms, specific tests of academic ability, student-reported academic self-efficacy, grades, teacher rating of being a good

student, self-rated attitude toward schoolwork, school attendance, etc.).

Literature Search Procedures

Studies for this meta-analysis were obtained through (a) computer searches on electronic databases, including PsycINFO, MEDLINE, and ERIC for published youth psychotherapy intervention studies in years 1980–2008, (b) a search of unpublished work found in Dissertation Abstracts International (1980–2008), (c) a search of journals by hand of those that had yielded more than two articles from the first step, (d) examination of previous meta-analyses of youth psychotherapy interventions, and (e) related studies based on the author and keywords from the study once a study qualified. Computer searches were based on the intersection of three factors involving psychotherapy (including the nine terms *anger*, *anxiety*, *at risk*, *depression*, *self-esteem*, *psychotherapy*, *mental health*, *ADHD*, and *ODD*), population (including the five terms *youth*, *child*, *adolescent*, *juvenile*, and *school*), and intervention (including the seven terms *intervention*, *treatment*, *evaluation*, *assessment*, *comparison*, *impact*, and *outcome*). A search in the computer database then included three terms: one psychotherapy factor, one population factor, and one intervention factor. All of the above steps together yielded approximately 5,000 total citations, with approximately 3,000 unique citations to review. The first screening took place through review of the title and abstract. If this did not exclude the study, then the method section was reviewed. By far the largest factor that excluded publications found in the search was that they were not intervention studies. In this way, a total of 83 qualifying studies were located, with 102 treatment comparisons. This search was conducted by the first four authors of the present study. We believe that we found a large corpus of studies due to concerted efforts at all five of the steps above.

Study Coding

Studies were coded for methodological features. A team of four judges (the second, third, and fourth authors of the present study, and one graduate student who was not an author) were trained by the first author to code studies. Every one of the 102 treatments was independently rated by two of the judges. Kappa values were calculated on the basis of the percentage of agreement between the initial independent coding of the 102 treatments of each study. Once kappa values were calculated, any discrepancies for the final coding of each study were resolved through collaboration between the two judges and consultation with the first author until a consensus was formed on the proper coding.

Type of outcome measure ($\kappa = .94$). The studies and recorded 750 outcome measures were reviewed first. Then, the studies and outcome measures were coded according to the definitions above as either being a mental health outcome measure, an academically related outcome measure, or neither (e.g., self-rated athletic ability).

Coding of academically related outcome measures ($\kappa = .92$). Once we were aware of the high heterogeneity of the academically related outcome measures, they were further classified into four categories: (a) academically related outcome measures that involved teacher-rated classroom behavior (e.g., on-task behavior),

(b) academic achievement, which included direct assessment of academic performance (e.g., grades, standardized test scores), (c) environmentally related outcomes, which included factors related to the context of the academic environment (e.g., discipline referrals, attendance), (d) academically related outcomes that were assessed by self-report (e.g., academic self-efficacy). Additionally, if a study had multiple measures within one of these four categories, they were combined into a single effect size so that each treatment did not contribute more than one effect size to the calculations within a category, following Hedges and Olkin (1985).

Studies were coded for two additional methodological considerations that were specifically relevant to the present analysis: age of participants and percentage of non-European American participants.

Age of participants ($\kappa = .91$). Weisz et al. (1995) found interventions for adolescents to be more effective than those for children. For the present study, as an *a priori* hypothesis, it seems that the academic impact of psychotherapy may be more powerful with adolescents because, overall, they may extend psychotherapy benefits to the realm of academics with more ease due to their greater maturity. Thus, a decision was made to investigate whether there was a significant difference in outcomes. Children were considered those who were age 11 and younger, and those studies taking place in elementary schools. Adolescents were considered those who were age 12 and older, and those studies taking place in middle and high schools. If the study included students from both age groups, it was coded as both.

Participant racial and ethnic diversity ($\kappa = .97$). In terms of the race and ethnicity of participants, there has been a tendency in the literature for European Americans to be overrepresented (Delgado-Romero, Galván, Maschino, & Rowland, 2005). S. Sue (1999) emphasized the value of psychologists moving beyond this limited focus. Thus, there is concern with racial and ethnic minority populations that results cannot be applied to their communities. As an *a priori* hypothesis, it was conjectured that studies with a higher representation of racial and ethnic minorities among the participants than is found in the general population would have lower outcomes than those studies that did not. This would be due to design and implementation of psychotherapy that is oriented to European Americans and does not have the same impact with racial and ethnic minorities.

Studies were divided into three categories on the basis of the ethnicity of the participants. It is challenging to give exact numbers for the ethnic composition of the United States, as over the past 30 years the percentage of racial and ethnic minorities, relative to European Americans, has been growing (D. W. Sue, Bingham, Porché-Burke, & Vasquez, 1999). Using U.S. Census Bureau (2001) data, the population was estimated as about 65% European American and 35% racial and ethnic minorities. Participant samples that were more racially and ethnically diverse than this were coded as *diverse*; if not more racial and ethnically diverse, then they were coded as *nondiverse*, and if ethnicity was not given, then it was coded as *not reported*. Conducting this comparison broadly tests the impact of interventions on diverse vis-à-vis nondiverse groups of participants, which may offer some insight. We do, however, acknowledge that this is in no way a test of the cultural sensitivity of the interventions, nor is it a test of the efficacy of the

interventions toward one racial or ethnic minority group vis-à-vis another.

Analytic Procedures

For the studies used in the meta-analytic review, effect size values were calculated for each outcome measure according to Smith and Glass (1977). This method computes effect size as the posttherapy difference between the control and treatment group means, divided by the pooled standard deviation. Effect sizes were calculated so that a positive effect size suggested that the treatment group performed better than the control group. In addition, Hedges and Olkin's (1985) principles of small sample correction and the weighted least squares (WLS) approach of weighting each effect size by the inverse of its variance were used. It was assumed that the studies in this meta-analysis were sampled from a population. This led us to use a random effects model (Hedges & Olkin, 1985). A random effects model was also chosen because we were interested in unconditional inferences. Unconditional inferences are inferences that are made about the parameters of a population of studies that are larger than the set of observed studies and that may not be strictly identical to them (Hedges & Vevea, 1998). These inferences apply to the present collection of studies and can also be generalized to future studies and additional youth psychotherapy interventions that are presently being used (Hedges & Vevea, 1998).

Additionally, random effects results can be used to make inferences even when the sample is heterogeneous (Weisz, McCarty, & Valeri, 2006), although there is less confidence regarding what characteristics are being represented when there is not homogeneity. For secondary analyses comparing different groups of studies, the *Q* statistic, analog to analysis of variance, as described by Lipsey and Wilson (2001), was used.

Results

Overall Effect of Psychotherapy on Outcome Measures

We assessed data for 83 studies that contained 102 treatment interventions. Results of the meta-analysis of the 102 treatments are found in Table 2. The aggregated effect size for all outcomes was $d = 0.46$, and was not homogeneous ($Q_W = 144.11$, $p = .003$). The measures were then divided between mental health measures and academically related outcome measures. The mental health outcome measures effect size was $d = 0.50$ (CI = .37, .63), significantly different from zero. Because the sign is assigned in effect size calculations, we clarify that for all effect size calculations done in this study, a positive effect size represents improvement across outcome measures. This effect size was not internally homogeneous ($Q_W = 217.45$, $p < .001$). The academically related outcome measures aggregated effect size was $d = 0.38$ (CI = .29, .46), significantly different from zero. This effect size was also not internally homogeneous ($Q_W = 162.31$, $p < .001$).

Analysis of Academically Related Outcome Measures

Because both mental health outcome and academically related outcomes were found to be heterogeneous, we divided studies into logical subgroups. Because mental health measures have been analyzed in many other studies, we chose to focus attention on

Table 2
Results of Analyses

| Outcome measures | <i>n</i> | <i>d</i> | 95% CI | <i>Q</i> | <i>Q</i> value | <i>p</i> |
|---|----------|----------|----------|----------|----------------|----------|
| All measures | 102 | 0.46 | .38, .54 | Q_W | 144.11 | .003* |
| All mental health outcomes | 102 | 0.50 | .37, .63 | Q_W | 217.45 | <.001* |
| All academically related outcomes | 102 | 0.38 | .29, .46 | Q_W | 162.31 | <.001* |
| Academically related measures | | | | Q_B | 12.82 | .005* |
| Teacher reported | 50 | 0.26 | .16, .35 | Q_W | 55.55 | .242 |
| Academic achievement | 27 | 0.36 | .20, .53 | Q_W | 36.80 | .078 |
| Environment | 13 | 0.26 | .10, .42 | Q_W | 14.28 | .283 |
| Self-reported | 18 | 0.59 | .37, .80 | Q_W | 25.48 | .084 |
| Age for academically related outcomes | | | | Q_B | 1.72 | .423 |
| Children | 43 | 0.41 | .26, .56 | Q_W | 93.95 | <.001* |
| Adolescents | 26 | 0.45 | .31, .59 | Q_W | 28.72 | .324 |
| Both | 33 | 0.32 | .20, .44 | Q_W | 35.22 | .226 |
| Ethnicity for academically related outcomes | | | | Q_B | 10.36 | .006* |
| Diverse | 30 | 0.38 | .26, .50 | Q_W | 37.96 | .123 |
| Non diverse | 31 | 0.24 | .11, .37 | Q_W | 40.68 | .093 |
| Not reported | 41 | 0.53 | .40, .67 | Q_W | 54.46 | .063 |
| Totals | | | | | | |
| Number of studies | 83 | | | | | |
| Number of treatments | 102 | | | | | |
| Number of measures | 750 | | | | | |
| Number of participants | 6,576 | | | | | |

Note. CI = confidence interval.

* $p < .05$.

academically related outcomes, which have not been well studied. It appeared that the most obvious concern regarding heterogeneity was the high variation in types of outcome measures. Accordingly, we divided academically related outcome measures into teacher-rated classroom behavior, academic achievement, environmentally related outcomes, and self-reported academically related outcomes, as described above. The goal was to discover whether these categories resulted in homogeneous subgroups that could represent salient domains within the studies.

Results from the category of teacher-rated classroom behavior, across all studies, had an effect size of $d = 0.26$ (CI = .16, .35), and was significantly different from zero. Additionally, it was homogeneous ($Q_W = 55.55$, $p = .242$).

Data for the domain of academic achievement had an effect size of $d = 0.40$, which was significantly different from zero. It was not homogeneous ($Q_W = 54.65$, $p = .002$). Thus, we used Hedges and Olkin's (1985) method of removing outliers based on extremes related to homogeneity to see whether this would lead to a homogeneous category. Potential outliers included studies in which the Q value was distant from the mean, and in which there was a large gap between the Q value for the study and the bulk of the remaining studies. For academic achievement outcomes, two of the 29 studies fit these criteria. Examination of the studies revealed nonstandard factors in each that supported their removal. With outliers removed, the effect size was $d = 0.36$ (CI = .20, .53), which was significantly different from zero, and the category was homogeneous ($Q_W = 36.80$, $p = .078$).

The effect size for the domain of environmentally relevant outcomes was $d = 0.26$ (CI = .10, .42), which was significantly different from zero, and was homogeneous ($Q_W = 14.28$, $p = .283$). The effect size for the domain of self-reported academically related outcomes was $d = 0.52$, which was significantly different from zero, but was not homogeneous ($Q_W = 58.84$, $p < .001$).

Following the procedure outlined above, we removed two of the 20 studies as outliers. This led to a homogeneous category ($Q_W = 25.48$, $p = .084$), with $d = 0.59$ (CI = .37, .80).

Moderator Effects

Results for the moderators of age and ethnicity are found in Table 2. Adolescents showed the highest effect size ($d = 0.45$) over children ($d = 0.41$) and groups with both ages ($d = 0.32$). However, this difference was not significant ($Q_B = 1.72$, $p = .423$). The categories of *adolescents* and *both* were homogeneous, whereas *children* was not, even when outliers were examined ($Q_W = 93.95$, $p < .001$). Regarding ethnicity, studies with *diverse* intervention groups had stronger outcomes ($d = 0.38$) than groups with *nondiverse* intervention groups ($d = 0.24$), with the *not-reported* group having the highest outcomes of all ($d = 0.53$). This difference was significant ($Q_B = 10.36$, $p = .006$). The categories of *diverse*, *nondiverse*, and *not reported* were homogeneous.

Discussion

We brought together a comprehensive set of studies of youth psychotherapy interventions that addressed both mental health and academically related outcomes. This set included both published and unpublished studies and was limited only to those studies in which randomized assignment to treatment was used. We used contemporary meta-analytic methods (e.g., included all measures from studies, weighted effect sizes, corrected for small samples, and used random effects procedures) for our analyses. Results indicated a significant impact of youth psychotherapy on academically related outcomes. In showing these impacts, we are able to affirm the present efforts of counseling psychologists to bridge mental health and academic/career domains.

The present study supports Richardson's (1996) conceptualization regarding false splits and suggests that some psychologists have overemphasized divisions between mental health outcomes and academically related outcomes. The mental health effect size of $d = 0.50$ is comparable to other meta-analyses of youth psychotherapy. Among the academically related outcomes, it is noteworthy that four homogeneous domains were discovered, all significantly different from zero. Self-reported academically related outcomes showed the highest change ($d = 0.59$). This would seem to reflect that the participants themselves valued how the psychotherapeutic interventions affected their academically related outcomes. Also noteworthy, especially for schools, is the improvement in academic achievement ($d = 0.36$). The categories of teacher-rated classroom behavior ($d = 0.26$), and environmentally related outcomes ($d = .26$), showed lower, but still significant change. Further studies will need to determine whether these lower scores reflect less actual change in the participants or reflect the reactivity of the measures.

Our findings of a higher overall effect size for mental health outcomes ($d = 0.50$) vis-à-vis academically related outcomes ($d = 0.38$) might not be at all surprising. There are likely many influences on academically related outcomes beyond the psychotherapeutic interventions. These include ability; prior achievement; students with special learning challenges; and multiple school, family, peer, and community factors that may all impact youths' academically related outcomes. Again, consistent with this, it makes sense that self-reported academically related outcomes showed the highest change ($d = 0.59$), as this is likely influenced by both improvements in academics and improvements in the overall attitudes of the students.

The findings do suggest that psychotherapy may serve an important role in supporting the academically related outcomes of K–12 youth and in helping to close the achievement gap. They also suggest that counseling psychologists need to take a holistic view of youth and understand that psychological well-being and academically related outcomes are interrelated. They should therefore make concerted efforts to work across professional disciplines, with all those working with youth. Knowing the findings of the present study, the goal of educators to improve academics is congruent with counseling psychologists' goal of enhancing the mental health of K–12 youth.

The moderator analyses of participant race and ethnicity, and age, showed some interesting results. Although adolescents did better than children, the difference was not significant, discrediting the hypothesis that adolescents do better because of their maturity. Maturity may remain a factor, but it may be balanced by children's openness to change or by other factors. Contrary to expectations, diverse participant groups fared better ($d = 0.38$) than nondiverse groups ($d = 0.24$). The effect size for the diverse groups of $d = 0.38$ matched that of the overall studies. This finding initially supports that psychotherapeutic interventions in our study in which diverse participant groups are used are efficacious for diverse populations. Our study differed from overall studies in that nondiverse groups measured significantly lower ($d = 0.24$) effect sizes, and not-reported groups higher ($d = 0.53$). Because not reporting ethnicity contradicts culturally centered practices for research, as recommended by the American Psychological Association (2003, 2009), we wondered whether the studies with not-reported groups tended to have relatively low awareness of ethnic diversity, and were composed largely of nondiverse participants. If so,

then interventions for European American participants might approach the combined total ($d = 0.38$) more closely than the present value of nondiverse participants ($d = 0.24$). If we are correct, then these data support the efficacy of psychotherapeutic interventions for diverse groups of youth more than they support inefficacy of psychotherapeutic interventions for nondiverse groups of youth.

Showing efficacy for academic outcomes for diverse populations may be especially important for some racial and ethnic minority groups who have been traditionally slow to embrace psychotherapy, but who often have cultural norms that support the value of positive academic outcomes (Ting & Hwang, 2009). The efficacy of psychotherapy on these outcomes might help persuade these parents to endorse psychotherapy for struggling youth in their families. Further studies of these interventions need to solidly affirm these outcomes with diverse populations.

Those less familiar with youth interventions, but who have knowledge of Lambert and Bergin's (1994) estimation of $d = 0.82$ as the impact of adult psychotherapy may be disappointed by the lower magnitude of our results. Looking at Table 1, there is a wide range of values related to youth psychotherapy outcomes. Many of the older estimates are in the range of Lambert and Bergin's estimation; however, the more recent effect sizes tend to be smaller. Our results are consistent with Weisz et al.'s (1995) seminal study that found $d = 0.54$ across a wide range of studies. One reason that effect sizes may have tended to get smaller over time could be the development of more stringent methodologies in meta-analyses. For example in Weisz, Weiss, Han et al.'s study, the researchers also calculated an effect size using earlier accepted methods, and their $d = 0.54$ effect size increased to $d = 0.71$ using the same study data. Although Prout and Prout (1998) is the largest apparent exception to more recent studies having smaller effect sizes, in fact, they used the older methods of Prout and DeMartino (1986) in their calculations. Thus, our results for academically related outcomes seem promising given that they are between Weisz et al.'s and McLeod and Weisz's (2004) estimations of the overall effectiveness of youth psychotherapy, and similar to Weisz et al.'s (2006) estimate of the impact of psychotherapy on youth depression.

A major limitation of this, and most meta-analyses, is that we are examining studies in ways for which they were not necessarily designed. This limitation became apparent with the high heterogeneity before we divided the academically related outcomes into four groups. We are trying to aggregate fairly dissimilar measures, which makes our study an imperfect test. It would be best if all studies used the same measures, but the studies we examined did not. We must remain cautious in our conclusions. Another limitation of this meta-study is that few of the examined studies made efforts to balance mental health outcomes with academic outcomes. Although such a lack of balance may strengthen our meta-study to avoid a purposeful bias toward one of these domains, unintended bias could remain. Perhaps academic outcomes did better or worse because they were usually less emphasized than mental health outcomes. Future research studies may help illuminate any such bias.

A large number of related research studies could specifically address the intersection of academic/career and mental health domains. It would be valuable for psychotherapy outcome studies to specifically assess a balanced set of measures, half mental health, half academic. It would further help if these studies ensured balance in the instruments themselves, such that questions had similar time frames. For example, studies could use measures that

assess feelings of depression over the last 2 weeks and feelings toward schoolwork over the last 2 weeks. Such coordinate measures would ensure the fairest testing of the impact of interventions on both domains. We also echo the encouragements of other authors to focus more studies on diverse populations (Delgado-Romero et al., 2005; D. W. Sue et al., 1999; S. Sue, 1999), and for all researchers to report the ethnicities of participants.

In summation, this comprehensive meta-analysis of youth psychotherapy showed significant efficacy of mental health interventions on academic outcomes. Our findings point toward psychotherapy's efficacy in the domains of both mental health and academic outcomes and can serve to promote the use of psychotherapy for youth. Furthermore, our findings can encourage greater partnership between those concerned with the sequelae of mental health diagnoses for youth and those concerned with the academic and career accomplishments of youth.

References marked with an asterisk indicate studies included in the meta-analysis that are discussed in the text. For a complete list, go to <http://dx.doi.org/10.1037/a0019652.suppl>

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