

Ethnicity and Income as Predictors of Clinical Outcomes of a Youth-Focused Personalizable Modular Treatment

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Objective: Personalizable modular treatments may be helpful in addressing the mental health needs of minoritized youths. We used data from five randomized effectiveness trials of the Modular Approach to Therapy for Children, a personalizable, individually tailored, modular treatment for common youth mental health concerns, to investigate whether clinical outcomes were predicted by ethnicity, family income, and their interaction. **Method:** Participants were drawn from a pool of 537 clinically referred youths treated for internalizing and/or externalizing problems in community clinics and their caregivers. The mean youth age was 9.97 ($SD = 2.59$); 57% were male; 49% were White, 22% Hispanic or Latinx, 14% Black, 13% multiethnic, 1% Asian, and 1% other ethnicity. Family income ranged from 21% to 776% of the federal poverty threshold, with 38% below the threshold. Youths and caregivers completed standardized measures of internalizing and externalizing problems quarterly for up to 24 months and standardized measures of internalizing and externalizing problems and idiographic top problem severity weekly throughout treatment. **Results:** Following adjustment for multiple analyses, ethnicity, income, and their interaction did not predict symptom improvement on any youth or caregiver-reported outcomes. **Conclusions:** Youths treated with the Modular Approach to Therapy for Children experienced comparable clinical benefits across ethnic groups and income levels, with no predictor effects when the number of tests was controlled for. The findings support future research on personalizable modular treatment for minoritized youths.

What is the public health significance of this article?

Clinical outcomes of personalizable modular therapy for internalizing and externalizing problems generally appear robust across ethnicity and income. Transdiagnostic, evidence-based modular therapy may be a promising approach for minoritized youths.

Keywords: youth mental health, psychotherapy, modular, ethnicity, income

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This study is a secondary data analysis of five published trials (four registered, one unregistered). Registration for parent trials is provided: the Clinic Treatment Trial (<https://clinicaltrials.gov>, NCT01178554), Maine Implementation Study–Phase III (<https://clinicaltrials.gov>, NCT02229305), Child System and Treatment Enhancement Projects for Youth Mental Health in Maine Sustainability (<https://clinicaltrials.gov>, NCT03112304), and Connecticut Child System and Treatment Enhancement Projects (<https://clinicaltrials.gov>, NCT03153904). Secondary data analyses and hypotheses were preregistered after data had been collected but before analyses were undertaken (https://osf.io/9358a/?view_only=689c8e3a68d64e1c8f958eeec2c752c). Analytic code has been made publicly available on the Open

Science Framework (https://osf.io/nmg2a/?view_only=af30df209d18488bb1401ffafe01f346). This article was prepared in accordance with the Journal Article Reporting Standards (Appelbaum et al., 2018).

Bruce F. Chorpita and John R. Weisz are the coauthors of the treatment manual for the Modular Approach to Treatment of Children with Anxiety, Depression, or Conduct Problems, for which they receive royalties. Bruce F. Chorpita is a board officer and member of PracticeWise, which publishes the Modular Approach to Therapy for Children protocol, a relationship that has been approved by the University of California, Los Angeles Chancellor. The authors report no other conflicts of interest.

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Reports of increased youth mental health problems have led to widespread calls to improve youths' and families' access to quality mental health care (Keyes & Platt, 2024; Office of the Surgeon General, 2021). Of particular concern are the mental health needs of youths from minoritized communities, including youths of color and youths from low-income backgrounds. While these youths have been disproportionately impacted by national and global challenges in recent years and may be at increased risk of developing mental health concerns (Castro-Ramirez et al., 2021; Office of the Surgeon General, 2021), they have historically had poorer access to mental health care (Chang & Slopen, 2024; Office of the Surgeon General, 2021; Zablotzky & Ng, 2023), a trend that appears to be worsening over time (Rodgers et al., 2022). Further, when these youths *do* access care, the quality of that care may be poorer (Institute of Medicine, 2006; Lui et al., 2022). Consequently, improving minoritized youths' access to evidence-based practices (EBPs) with demonstrated clinical benefit has become a national priority (Office of the Surgeon General, 2021).

Understandably, however, there have been questions about whether EBPs tested in research trials are effective for youths of color and those from low-income backgrounds, groups traditionally minoritized in youth psychotherapy research. Indeed, across five decades, hundreds of randomized clinical trials demonstrate the effectiveness of youth psychotherapy, but only an eighth of these studies examined outcomes in samples consisting predominantly of youths of color (Weisz et al., 2017). Even with efforts to improve inclusivity in clinical trials (e.g., the 1993 National Institutes of Health Revitalization Act), representation remains a concern, at least in some areas. For example, across three decades, the inclusion of youths of color and youths from low-income backgrounds has not improved in psychotherapy trials for depression (Polo et al., 2019). Further, when these minoritized youths have been included, few have presented outcomes by group and whether these outcomes are predicted by race, ethnicity, and income, making it unclear whether EBP outcomes are comparable across diverse groups (Huey & Polo, 2017; Pina et al., 2019; Polo et al., 2019). To date, studies testing treatments with samples comprised of minoritized youths suggest that they do benefit from some EBPs (Huey & Polo, 2017; Polo et al., 2019; Santiago et al., 2013), although the strength of evidence remains relatively limited. The smaller literature testing race, ethnicity, and income as predictors of treatment outcomes, often with small samples, also suggests that outcomes generally do not vary markedly across these groups (Cogle & Grubaugh, 2022; Huey et al., 2023; Huey & Polo, 2017; McMahon et al., 2021; Norris & Kendall, 2021; Pina et al., 2019; Weisz et al., 2013). However, when outcomes *do* vary, they are oftentimes poorer for minoritized youths (Pina et al.,

2019). Based on this body of work, when EBPs have not been tested for minoritized youths, current guidance recommends interventions consistent with the broader youth psychotherapy evidence base that allow individual tailoring (Pina et al., 2019).

A second concern is that the evidence base for youth psychotherapy primarily consists of studies conducted in environments that do not represent the settings where minoritized youths are likely to access care. EBPs have traditionally been developed and tested with predominantly White youths from families with higher income in settings (e.g., university lab clinics) designed to optimize treatment outcomes (Weisz et al., 1995). Many studies exploring moderation by race or ethnicity involve youths and caregivers recruited for trials (not those seeking treatment through normal community pathways), service provision by paid research staff or graduate student providers, and treatment in specialty or academically affiliated service settings (Pina et al., 2019). Unsurprisingly, when these EBPs have been transported to routine care settings where minoritized youths are more likely to access services (Southam-Gerow et al., 2008), clinicians have expressed concerns about the fit of these EBPs with the youths they treat in everyday practice (Nelson et al., 2006; Reding et al., 2018). Specifically, EBPs have traditionally focused on a single target disorder or a small cluster of similar disorders, but youths in community settings often receive treatment for multiple comorbid problems (Cho et al., 2019; Milette-Winfrey & Mueller, 2018; Nelson et al., 2006). EBPs also often prescribe a predetermined number of sessions with content specified for each session. However, typical treatment duration in routine care settings falls well short of the prescribed duration of 12–24 sessions in many EBPs, with minoritized youths at greater risk of prematurely ending treatment (de Haan et al., 2015). Additionally, youths' treatment targets fluctuate over time (Weisz et al., 2011), and they often experience life events that can disrupt treatment (Guan et al., 2019). Given these apparent mismatches, treatments that can be tailored to the needs of minoritized youths may be most appropriate in routine care settings.

To ensure minoritized youths have access to effective, research-supported services and to prevent unintended reductions in treatment effectiveness while tailoring (Lau, 2006), balancing fidelity and adaptation becomes a key task. Accordingly, some researchers have proposed modular treatments (Lyon et al., 2014). In modular treatments, modules or standalone treatment components derived from EBPs for the youth's target problem are arranged into an individualized treatment plan for a given youth, with guidance from multiple forms of knowledge and evidence (Chorpita et al., 2005). When treating minoritized youths, providers could use the existing psychotherapy research, practice-based knowledge about the youth's identity and background, and routinely collected information about

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the youth's treatment targets, goals, and progress to design a personalized intervention—one that aligns with the evidence base but is tailored to the youth's distinctive needs (Lyon et al., 2014).

The Modular Approach to Therapy for Children (MATCH; Chorpita & Weisz, 2009) is one exemplar in which providers flexibly deliver treatment modules comparable to four EBPs for anxiety, depression, trauma, and conduct problems to address youth-specific treatment needs guided by decision trees and routine outcome monitoring. MATCH has outperformed usual care delivered by providers in community mental health clinics in trials comprised primarily of low-income, Latinx youths (Chorpita et al., 2017). It has also outperformed usual care in racially, ethnically, and socioeconomically diverse samples (Weisz, Bearman, et al., 2020; Weisz et al., 2012; Weisz, Thomassin, et al., 2020; Weisz et al., 2018), with a recent study showing that MATCH outcomes generally did not vary across racial and ethnic groups in one prior trial (Johansen et al., 2024). MATCH has also been sustained by providers in community settings, demonstrating promise for implementation (Thomassin et al., 2019). While these studies provide support for MATCH with minoritized youths in community settings, each individual study on its own does not allow for an examination of larger patterns of variation by ethnicity and income.

The present study pooled data from five effectiveness trials of MATCH to gauge the outcomes of this personalizable modular approach for minoritized youths. By pooling data from five trials, we built a large sample representing multiple racial and ethnic groups and a wide range of income levels. By pooling only effectiveness trials, we investigated MATCH outcomes for youths seeking treatment in routine care settings. Finally, by using only MATCH trials, we assessed effects in the context of the same modular, transdiagnostic treatment designed to be personalized to the needs of each youth. Using this pooled sample, we aimed to examine whether the clinical outcomes of MATCH varied by race and ethnicity (hereinafter, ethnicity¹) and family income. Prior research has primarily explored the moderating role of ethnicity on treatment outcomes alone or while controlling for income (Pina et al., 2019), which may mask interactive effects that could shed light on the potential pathways through which disparities may persist (Nuru-Jeter et al., 2018). Thus, we also explored the interactive impact of ethnicity and income on MATCH outcomes. Although the work by Johansen et al. (2024) suggested limited racial and ethnic differences in MATCH treatment outcomes, given the relatively limited racial and ethnic diversity in their smaller sample and the lack of research exploring these predictors for youth psychotherapy in routine practice settings broadly (Pina et al., 2019; Polo et al., 2019) and for transdiagnostic, modular treatments specifically (Pina et al., 2019), we took an exploratory approach and therefore did not preregister *a priori* hypotheses. The study aimed to explore empirical questions about prediction by ethnicity and income and contribute to the growing psychotherapy evidence base for minoritized youths.

Method

Procedure

Data from five trials of MATCH conducted between 2005 and 2018 in community clinics in California, Connecticut, Hawaii, Massachusetts, and Maine were included in this study (Chorpita et al., 2013, 2017; Weisz, Bearman, et al., 2020; Weisz et al., 2012,

2018; Weisz, Thomassin, et al., 2020). Clinically referred youths between 5 and 15 years of age seeking treatment at a partnering community clinic and who met diagnostic criteria for or had clinically elevated symptoms of anxiety, depression, conduct problems, and/or trauma were eligible for participation in these trials. Exclusionary criteria included primary treatment concerns not targeted by MATCH (e.g., attention-deficit/hyperactivity disorder); intellectual disabilities, developmental delays, psychosis symptoms, bipolar disorder, autism spectrum disorders, and/or eating disorders; and recent suicidal risk (see parent studies for trial-specific inclusionary and exclusionary criteria). Eligible youths provided assent, and caregivers gave informed consent, then were individually randomized to study conditions (Weisz, Bearman, et al., 2020; Weisz et al., 2018; Weisz, Thomassin, et al., 2020) or assigned to a therapist randomized to study conditions (Chorpita et al., 2013, 2017; Weisz et al., 2012), with at least one involving treatment with MATCH. The research teams did not inform youths and families of their study conditions. Youths and caregivers completed study assessments that included brief weekly measures while receiving treatment, which ranged between a mean of 167 and 211 days across trials, and more extensive measures administered quarterly throughout study participation, ranging from 18 to 24 months across studies. Trained masked assessors unaware of participant study condition administered assessments, and youths and caregivers were compensated for completing all study assessments. All study procedures are detailed in prior publications and were approved by the institutions' institutional review boards. All participants randomized to receive MATCH and who contributed to primary outcome analyses were included in the full pool of participants ($N = 537$) for this secondary data analysis.

Participants

Youths had a mean age of 9.97 years ($SD = 2.59$); 57% were male, and 43% were female.² Caregivers were asked to endorse one of six racial and ethnic groups in a question about the youth's "ethnicity": 49% White, 22% Hispanic or Latinx, 14% Black, 13% multiethnic, 1% Asian, and 1% other. The multiethnic group was heterogeneous; caregivers reported on average 2.58 (range = 2–6) self-identified ethnicities: 10% American Indian and Alaska Native, 28% Asian, 41% Black or African American, 46% Hispanic or Latinx, 6% Native Hawaiian and other Pacific Islander, and 74% White. Annual family income was 36.31% \$0–19,000, 30.17% \$20,000–39,000, 11.92% \$40,000–59,000, 6.70% \$60,000–79,000, 6.15% \$80,000–99,000, 2.98% \$100,000–\$119,000, 0.93% \$120,000–139,000, and 1.49% \$140,000+. On average, family income was 163% ($SD = 139\%$, range = 21%–776%) of the federal poverty threshold. We derived this percentage for each youth based on the year of their caregiver baseline assessment, caregiver-reported number of dependents and children living in the home, and the midpoint of the caregiver-endorsed annual family income

¹ In the original studies, caregivers were asked to describe the youth's "ethnicity" by endorsing one of the six options. While this approach, which conflates race and ethnicity, is inconsistent with current best practices on research on race and ethnicity (e.g., American Psychological Association Task Force on Race and Ethnicity Guidelines in Psychology, 2019), because caregivers responded to a request for "ethnicity" information, we elected to use the term "ethnicity" in this article.

² Caregivers were asked about youth sex and to endorse one of these two options.

range (or \$140,000 when caregivers endorsed the \$140,000+ option; U.S. Census Bureau, 2023). Youth characteristics are provided in Table 1.

Measures

Youths and caregivers completed assessments quarterly throughout study participation (ranging from 18 to 24 months) and weekly during treatment. Quarterly outcomes included standardized measures of youth internalizing and externalizing problems. Weekly outcomes included brief standardized measures of youth internalizing and externalizing problems and idiographic top problems to address in treatment.

Quarterly Outcomes

Standardized Internalizing and Externalizing Symptoms. The Child Behavior Checklist (CBCL) and Youth Self-Report (YSR) were administered to caregivers and youths quarterly throughout the duration of four prior trials (Chorpita et al., 2013; Weisz, Bearman, et al., 2020; Weisz et al., 2018; Weisz, Thomassin, et al., 2020). The CBCL and YSR are standardized, 112-item measures of youth mental health symptoms that yield *T* scores for internalizing, externalizing, and total problems. Extensive research supports both measures' reliability and validity in clinically referred samples of diverse youth (Achenbach & Rescorla, 2001).

Weekly Outcomes

Standardized Internalizing and Externalizing Symptoms. The Brief Problem Checklist (BPC) was administered to caregivers and youths weekly during treatment. The BPC is a standardized 12-item measure of youth internalizing and externalizing problems, which yields internalizing (range 0–12), externalizing (range 0–12), and total (0–24) problem scores (Chorpita et al., 2010). The BPC has demonstrated reliability, validity, and clinical utility for progress monitoring in clinically referred youth samples (Chorpita et al., 2010). Weisz, Bearman, et al. (2020) administered the Brief Problem Monitor (BPM), which has demonstrated reliability and validity in clinically referred youths (Achenbach et al., 2011). The BPM and BPC include parallel internalizing and externalizing items and rating scales, and we derived BPC internalizing, externalizing, and total scores from the BPM for this study.³

Idiographic Top Problems. The Top Problem Assessment (TPA) was administered to caregivers and youths weekly throughout treatment. The TPA is an idiographic measure of the severity of caregiver- and youth-self-nominated top problems to target in treatment (Weisz et al., 2011). At the study baseline, youths and caregivers self-nominated up to three top problems, and each week during treatment, they rated the severity of each of these problems. The TPA yields an average score (range 0–10) across the identified top problems. Data from four of the five trials that used the same rating scale were included. The TPA has demonstrated reliability, validity, and sensitivity to change in clinically referred youth samples (Weisz et al., 2011).

Treatment

All youths received the transdiagnostic, modular intervention, MATCH (Chorpita & Weisz, 2009), for anxiety, depression,

conduct problems, and/or trauma-related concerns in community clinics. MATCH provides a menu of 33 treatment modules consistent with EBPs for these four treatment targets. These modules are coordinated into a personalized treatment guided by the problem area-specific flowcharts that outline a default treatment plan and decision points for adaptations when determined clinically indicated (Chorpita et al., 2005). Participants attended therapy sessions weekly with a clinician employed by the community clinic. These clinicians received an initial training (40–48 hr) led by MATCH experts, followed by ongoing support of varying intensity across trials (i.e., weekly individual or group consultation with MATCH expert consultants, supervision from a clinic supervisor trained in MATCH, or low-cost supports).

Data Analytic Plan

Participants were drawn from a pool of 537 youths who received MATCH, were included in publications of primary outcomes, and were available for inclusion in data analyses. Sample size varied across outcomes (see Tables 1–4). For each outcome, youths were included if they (a) were administered the measure,⁴ (b) provided at least one data point, (c) were not missing data on the predictor for the given analysis, and (d) were not Asian ($n = 5$) or other ethnicity ($n = 4$) for the analyses exploring ethnicity as a predictor (these youths were excluded due to small cell count). Information on missing data for the clinical outcomes was reported in the parent trials, which did not use intent-to-treat analytic methods but instead used multilevel modeling using maximum likelihood estimation to include all participants who provided at least one data point regardless of treatment and assessment completion. We modeled our analyses to be consistent with the analyses in the parent trials. Specifically, we assumed that data were missing at random and used maximum likelihood estimation, which is robust to missingness, to run multilevel models using all available data (Baraldi & Enders, 2010). However, cases missing data on the predictors were excluded from analyses. Missingness rates for ethnicity and income ranged between 0% and 3.56% across analyses, which is within the 5% threshold recommended for listwise deletion (Tabachnick & Fidell, 2019). Missingness on the predictor variables was not associated with the outcome variables or improvement trajectories (all $p > .05$), making listwise deletion a viable approach (King et al., 2001; Little, 1992).

Study hypotheses were tested using two-level multilevel models with time nested within youths, fixed effects for all covariates and predictors, and random intercepts and slopes. Higher levels of nesting (e.g., therapist, clinic, state) were not included due to low intraclass correlations ($<.09$). Trial was included as a dummy-coded covariate, with Weisz et al. (2012) and Chorpita et al. (2013) as the reference groups. Consistent with published analyses for most of the included trials, time was modeled as logdays. Ethnicity was dummy-coded with White as the reference group. Income was included as the percentage of

³ The BPM includes two separate items for youth disruptive behavior at home and at school, while the BPC includes one item for youth disruptive behavior at home and at school. The higher of the two ratings was used to derive BPC scores from the BPM. The six BPM Attention Scale items were not included in these analyses.

⁴ The CBCL/YSR were not administered in Chorpita et al. (2017, $n = 78$); the TPA was administered using a different rating scale in Weisz, Thomassin, et al. (2020) and was not used in this study ($n = 200$).

Table 1
Summary of Sociodemographic and Key Study Variables

Youth and family characteristic	<i>M (SD) or % (n)</i>
Age	9.97 (2.59)
Sex	
Male	57% (<i>n</i> = 307)
Female	43% (<i>n</i> = 230)
Ethnicity	
White	74% (<i>n</i> = 51)
Hispanic or Latinx	22% (<i>n</i> = 119)
Black	14% (<i>n</i> = 73)
Multiethnic ^a	13% (<i>n</i> = 69)
American Indian or Alaska Native	10% (<i>n</i> = 7)
Asian	28% (<i>n</i> = 19)
Black	41% (<i>n</i> = 28)
Hispanic or Latinx	46% (<i>n</i> = 32)
Native Hawaiian or Pacific Islander	6% (<i>n</i> = 4)
Asian	1% (<i>n</i> = 5)
Other race	1% (<i>n</i> = 4)
Annual family income	
\$0–19,000	36% (<i>n</i> = 195)
\$20,000–39,000	30% (<i>n</i> = 162)
\$40,000–59,000	12% (<i>n</i> = 64)
\$60,000–79,000	7% (<i>n</i> = 36)
\$80,000–99,000	6% (<i>n</i> = 33)
\$100,000–\$119,000	3% (<i>n</i> = 16)
\$120,000–\$139,000	1% (<i>n</i> = 5)
\$140,000 or more	1% (<i>n</i> = 8)
% Federal poverty threshold	1.63 (1.38)
CBCL internalizing T score	66.13 (8.54)
CBCL externalizing T score	65.70 (9.12)
CBCL total T score	67.50 (7.02)
YSR internalizing T score	57.60 (10.71)
YSR externalizing T score	53.71 (10.53)
YSR total	57.47 (10.50)
Caregiver, BPC, internalizing	4.37 (3.06)
Caregiver, BPC, externalizing	5.19 (3.07)
Caregiver, BPC, total	9.56 (4.80)
Youth, BPC, internalizing	3.16 (2.96)
Youth, BPC, externalizing	3.30 (2.61)
Youth, BPC, total	6.45 (4.58)
Caregiver, TPA	5.09 (2.71)
Youth, TPA	3.87 (2.63)

Note. CBCL = Child Behavior Checklist; YSR = Youth Self-Report; BPC = Brief Problem Checklist; TPA = Top Problems Assessment.

^a Proportion of youths whose caregivers endorsed a given ethnicity.

the federal poverty threshold. In models examining ethnicity as a predictor of each clinical outcome from trials, logdays, ethnicity, and the three Logdays $\times$ Ethnicity interactions, significant coefficients for the interaction terms indicated ethnic differences in outcomes. Simple slopes are presented for each ethnic group. In models examining income as a predictor of each clinical outcome from trials, logdays, income, and the Logdays $\times$ Income interaction, significant coefficients for the interaction term indicated income differences in outcomes. Significant interactions were probed by estimating simple slopes at low (-1 SD), mean, and high ($+1$ SD) income levels and identifying regions of significance (Curran et al., 2004; Rast et al., 2014) using the *interactions* package in R (Long, 2024). In models examining the interaction of ethnicity and income as a predictor of each clinical outcome from trials, logdays, ethnicity, income, and the Logdays $\times$ Ethnicity $\times$ Income interactions (and all lower order terms), significant coefficients for the three-way interactions indicated joint effects of ethnicity and income on outcomes.

Significant interactions were probed by estimating simple slopes for each combination of the two predictors. All tests of coefficients were two-tailed. We present *p* values and the corresponding *q* values corrected for multiple tests and comparisons using the false discovery rate (Benjamini & Hochberg, 1995) to account for the 14 outcomes tested per predictor. Analyses were conducted using *lme4* (Bates et al., 2015) in R (R Core Team, 2023) using restricted maximum likelihood.⁵ Models that failed to converge were rerun with a different optimizer and increased tolerance. In line with recommendations for power analysis for secondary data analysis (Dziak et al., 2020), we do not report post hoc power estimates but instead provide confidence intervals for the point estimates of this exploratory study (see Tables 2–4).

Effect sizes were calculated as the difference in total R^2 attributed to the addition of the fixed effects of the interactions (Rights & Sterba, 2021), with $R^2 = .02$ indicating a small, $R^2 = .13$ a medium, and $R^2 = .26$ a large effect (Cohen, 1988). The clinical significance of group differences was also explored. For quarterly outcomes, clinically significant change was defined as movement from clinical ($T \geq 64$) to subclinical scores on the CBCL and YSR (Jacobson & Truax, 1991). χ^2 tests compared the proportion of ethnic and income groups (i.e., above or below the median) that evidenced clinically significant change, and logistic regression tested whether the interaction of ethnicity and income predicted clinically significant change from baseline to 24-month follow-up on model-estimated scores. For weekly outcomes, given the lack of established clinical cutoffs, the same analyses were conducted, but clinically significant change was determined using the reliable change index on model-estimated baseline to posttreatment scores (Jacobson et al., 1999). Analyses were powered to detect small effect sizes ($w \geq .13$, $OR \geq 1.64$).

Transparency and Openness

We followed Journal Article Reporting Standards, including reporting of how we determined our sample size and all included measures (Appelbaum et al., 2018). The study hypotheses and analytic plan were preregistered (https://osf.io/9358a/?view_only=689c8e3a68d64e1c8f958eecca2c752c). Data for this study are not available because participants did not consent to sharing of data on public repositories. Analytic code is publicly available (https://osf.io/nmg2a/?view_only=af30df209d18488bb1401ffafe01f346). The MATCH manual (Chorpita & Weisz, 2009) can be accessed on the publisher's website (<https://www.practicewise.com>).

Results

Ethnicity Prediction

Prior to correcting for multiple tests, trajectories for 11 of the 14 outcomes were comparable between youths of color and White youths. The remaining three outcomes, all youth-reported, were predicted by ethnicity (see Table 2). Of the quarterly outcomes, multiethnic youths reported significantly slower YSR externalizing trajectories than White youths ($b = 0.49$, $p = .048$, $q = .70$), though both multiethnic and White youths reported significant improvements (see Table 2 for ethnic group trajectories). Of the weekly outcomes, Black youths

⁵ Bayesian credibility intervals (Kruschke, 2011) for key parameters are provided in the Supplemental Materials.

Table 2
Summary of Ethnicity as a Predictor of Modular Approach to Therapy for Children Symptom Trajectories

Outcome	Ethnicity as a predictor						Ethnic group trajectory estimates															
	Black versus White			Latinx versus White			Multieθνic versus White			White			Black			Latinx			Multieθνic			
	b	p	q	b	p	q	b	p	q	b	p	q	b	p	q	b	p	q	b	p	q	
Quarterly outcomes																						
CBCL, Int ^a	-0.10 [-0.54, 0.33]	.64	.75	-0.28 [-0.76, 0.20]	.25	.92	-0.16 [-0.61, 0.29]	.49	.92	.00	-1.56 [-1.76, -1.36]	<.001	-1.66 [-2.05, -1.27]	.002	.00	-1.84 [-2.28, -1.40]	<.001	-1.72 [-2.12, -1.31]	<.001			
CBCL, Ext ^a	-0.09 [-0.47, 0.29]	.64	.75	-0.24 [-0.66, 0.17]	.25	.92	0.18 [-0.22, 0.57]	.38	.92	.00	-1.24 [-1.41, -1.07]	<.001	-1.33 [-1.67, -0.99]	<.001	.00	-1.48 [-1.86, -1.10]	<.001	-1.06 [-1.42, -0.71]	<.001			
CBCL, Ttl ^a	-0.24 [-0.63, 0.15]	.23	.42	-0.41 [-0.85, 0.02]	.06	.84	-0.01 [-0.42, 0.39]	.95	.95	.01	-1.42 [-1.60, -1.24]	<.001	-1.66 [-2.01, -1.31]	<.001	.00	-1.84 [-2.23, -1.44]	<.001	-1.44 [-1.80, -1.07]	<.001			
YSR, Int ^b	-0.07 [-0.62, 0.48]	.81	.87	-0.07 [-0.27, 0.71]	.83	.92	-0.08 [-0.67, 0.51]	.79	.92	.00	-1.99 [-2.26, -1.73]	<.001	-2.06 [-2.55, -1.58]	<.001	.00	-2.06 [-2.60, -1.53]	<.001	-2.08 [-2.61, -1.54]	<.001			
YSR, Ext ^b	-0.44 [-0.89, 0.01]	.06	.21	0.22 [-0.27, 0.71]	.38	.92	0.49 [0.01, 0.97]	.05 ^c	.70	.00	-1.30 [-1.51, -1.08]	<.001	-1.73 [-2.13, -1.34]	<.001	.00	-1.08 [-1.51, -0.64]	<.001	-0.81 [-1.24, -0.37]	<.001			
YSR Ttl ^b	-0.30 [-0.81, 0.20]	.24	.42	0.04 [-0.51, 0.59]	.90	.92	0.04 [-0.51, 0.58]	.90	.95	.00	-1.88 [-2.12, -1.64]	<.001	-2.18 [-2.63, -1.73]	<.001	.00	-1.84 [-2.33, -1.35]	<.001	-1.84 [-2.33, -1.35]	<.001			
Weekly outcomes																						
Parent, BPC, Int ^d	0.08 [-0.14, 0.30]	.50	.70	0.01 [-0.17, 0.19]	.92	.92	-0.12 [-0.34, 0.10]	.27	.92	.00	-0.39 [-0.49, -0.29]	<.001	-0.31 [-0.51, -0.11]	<.01	.00	-0.38 [-0.53, -0.22]	<.001	-0.51 [-0.71, -0.31]	<.001			
Parent, BPC, Ext ^d	0.22 [0.00, 0.43]	.05	.21	0.05 [-0.13, 0.23]	.56	.92	0.04 [-0.18, 0.25]	.73	.92	.00	-0.44 [-0.54, -0.35]	<.001	-0.23 [-0.42, -0.03]	.04	.00	-0.39 [-0.54, -0.24]	<.001	-0.41 [-0.60, -0.22]	<.001			
Parent, BPC, Ttl ^d	0.28 [-0.08, 0.66]	.13	.30	0.06 [-0.24, 0.37]	.70	.92	-0.08 [-0.45, 0.29]	.66	.92	.00	-0.83 [-0.99, -0.66]	<.001	-0.54 [-0.87, -0.21]	<.01	.00	-0.77 [-1.02, -0.51]	<.001	-0.91 [-1.24, -0.58]	<.001			
Youth, BPC, Int ^e	0.26 [0.03, 0.50]	.03	.21	-0.04 [-0.25, 0.16]	.69	.92	-0.10 [-0.35, 0.14]	.42	.92	.00	-0.34 [-0.45, -0.22]	<.001	-0.07 [-0.28, 0.13]	.50	.00	-0.38 [-0.55, -0.20]	<.001	-0.44 [-0.66, -0.22]	<.001			
Youth, BPC, Ext ^e	0.17 [-0.03, 0.38]	.09	.25	-0.03 [-0.21, 0.15]	.75	.92	0.18 [-0.04, 0.39]	.11	.77	.00	-0.32 [-0.42, -0.23]	<.001	-0.15 [-0.33, 0.03]	.14	.00	-0.35 [-0.50, -0.20]	<.001	-0.15 [-0.34, 0.04]	.13			
Youth, BPC, Ttl ^e	0.44 [0.06, 0.83]	.02	.21	-0.07 [-0.41, 0.26]	.68	.92	0.09 [-0.32, 0.49]	.67	.92	.00	-0.65 [-0.83, -0.47]	<.001	-0.20 [-0.54, 0.14]	.26	.00	-0.72 [-1.01, -0.44]	<.001	-0.56 [-0.93, -0.20]	<.01			
Parent, TPA ^f	-0.02 [-0.41, 0.38]	.94	.94	0.04 [-0.19, 0.28]	.71	.92	0.06 [-0.22, 0.34]	.66	.92	.00	-0.69 [-0.80, -0.57]	<.001	-0.70 [-1.08, -0.32]	<.001	.00	-0.64 [-0.84, -0.44]	<.001	-0.62 [-0.88, -0.37]	<.001			
Youth, TPA ^g	-0.19 [-0.65, 0.27]	.42	.65	0.12 [-0.17, 0.41]	.41	.92	0.22 [-0.13, 0.58]	.22	.92	.00	-0.68 [-0.83, -0.53]	<.001	-0.87 [-1.31, -0.44]	<.001	.00	-0.56 [-0.81, -0.31]	<.001	-0.46 [-0.78, -0.14]	.01			

Note. For inclusion in analyses, the measure had to be administered, youths provided at least one data point for analysis, predictor data were not missing, and youth ethnicity was not Asian or other ethnicity. CBCL = Child Behavior Checklist; Int = internalizing; Ext = externalizing; Ttl = total; YSR = Youth Self-Report; BPC = Brief Problem Checklist; TPA = Top Problems Assessment.

^a $n = 443$. ^b $n = 401$. ^c $p = .048$. ^d $n = 499$. ^e $n = 433$. ^f $n = 319$. ^g $n = 248$.

reported significantly slower and nonsignificant improvement on the BPC internalizing ($b = 0.26, p = .03, q = .21$) and total ($b = 0.44, p = .02, q = .21$) scores compared to White youths' faster and significant improvement. These prediction results were nonsignificant after adjusting for multiple tests, and effect sizes fell below the threshold for a small effect. Clinical significance analyses showed no significant ethnic group differences in the proportion of youths who moved from clinical to subclinical levels on quarterly measures or evidenced reliable change on weekly measures (all $qs \geq .05$).

Income Prediction

Prior to correcting for multiple comparisons, trajectories for eight of the 14 outcomes were comparable across family income levels, and the remaining six were predicted by income (see Table 3). Of the quarterly outcomes, caregiver CBCL internalizing ($b = -0.12, p = .03, q = .10$) and total ($b = -0.10, p = .04, q = .10$) improvement varied by income. Of the weekly outcomes, caregiver BPC internalizing ($b = -0.06, p = .03, q = .10$) and total ($b = -0.09, p = .04, q = .10$); TPA ($b = -.07, p = .04, q = .10$); and youth BPC internalizing ($b = -.06, p = .048, q = .10$) improvement varied by income. In all six instances, higher income was associated with faster symptom improvement, though significant symptom improvement was observed at all probed levels of income,

and regions of significance encompassed the observed range of income in this study. These results were nonsignificant after adjusting for multiple tests, and all effect sizes fell below the threshold for a small effect. Clinical significance analyses showed no significant income-based differences in the proportion of youths who moved from clinical to subclinical levels on quarterly measures or evidenced reliable change on all but one weekly measure (all $qs > .05$). Youths with higher family income were more likely to demonstrate reliable change on the parent BPC total than youths with lower family income ($\chi^2 = 8.94, q = .042$).

Ethnicity $\times$ Income Prediction

Prior to correcting for multiple tests, trajectories for 11 of the 14 outcomes were comparable across ethnicity and income. The remaining three outcomes, all youth-reported weekly outcomes, were jointly predicted by ethnicity and income (see Table 4 and Figure 1). The difference in Black and White youths' BPC internalizing trajectories varied by income ($b = -0.25, p = .02, q = .25$), such that Black youths' improvement grew faster with increased income. Black youths' BPC internalizing scores did not improve at low ($b = 0.26, p = .09$) and mean ($b = -0.13, p = .23$) income levels but improved at high-income levels ($b = -0.52, p = .01$), while White youths' scores

Table 3

Summary of Family Income as a Predictor of Modular Approach to Therapy for Children Symptom Improvement Trajectories

Outcome	Income as a predictor				Trajectory estimates at low, mean, and high income				
	<i>b</i>	<i>p</i>	<i>q</i>	<i>R</i> ²	−1 <i>SD</i> income <i>b</i>	<i>M</i> income <i>b</i>	+1 <i>SD</i> income <i>b</i>	<i>J</i> − <i>N</i> ^a	
Quarterly outcomes									
Parent, CBCL, Int ^b	−0.12 [−0.22, −0.01]	.03	.10	.00	−1.46* [−1.69, −1.23]	−1.64* [−1.79, −1.48]	−1.81* [−2.01, −1.61]	[−112.05, −7.17]	
Parent, CBCL, Ext ^b	−0.06 [−0.15, 0.03]	.23	.27	.00					
Parent, CBCL, Ttl ^b	−0.10 [−0.19, 0.00]	.04	.10	.01	−1.35* [−1.56, −1.15]	−1.50* [−1.64, −1.36]	−1.65* [−1.83, −1.46]	[−429.51, −7.67]	
Youth, YSR, Int ^c	−0.13 [−0.27, 0.00]	.05	.10	.00					
Youth, YSR, Ext ^c	−0.08 [−0.19, 0.04]	.19	.26	.00					
Youth, YSR, Ttl ^c	−0.1− [−0.23, 0.02]	.11	.17	.00					
Weekly outcomes									
Parent, BPC, Int ^d	−0.06 [−0.11, −0.01]	.03	.10	.00	−0.27* [−0.37, −0.17]	−0.36* [−0.43, −0.29]	−0.45* [−0.55, −0.35]	[−54.16, −3.35]	
Parent, BPC, Ext ^d	−0.03 [−0.08, 0.02]	.22	.27	.00					
Parent, BPC, Ttl ^d	−0.09 [−0.17, −0.01]	.04	.10	.00	−0.60* [−0.77, −0.42]	−0.73* [−0.85, −0.60]	−0.86* [−1.02, −0.69]	[−126.86, −4.22]	
Youth, BPC, Int ^e	−0.06 [−0.11, 0.00]	.05 ^f	.10	.00	−.22* [−0.34, −0.11]	−0.30* [−0.38, −0.23]	−0.38* [−0.48, −0.28]	[−391.25, −2.53]	
Youth, BPC, Ext ^e	−0.02 [−0.07, 0.03]	.44	.48	.00					
Youth, BPC, Ttl ^e	−0.08 [−0.17, 0.01]	.10	.17	.00					
Parent, TPA ^g	−0.07 [−0.13, 0.00]	.04	.10	.00	−0.57* [−0.69, −0.44]	−0.66* [−0.75, −0.57]	−0.75* [−0.87, −0.63]	[−148.03, −5.01]	
Youth, TPA ^h	−0.03 [−0.10, 0.05]	.53	.53	.00					

Note. For inclusion in analyses, the measure had to be administered, youths provided at least one data point for analysis, and predictor data were not missing. CBCL = Child Behavior Checklist; Int = internalizing; Ext = externalizing; Ttl = total; YSR = Youth Self-Report; BPC = Brief Problem Checklist; TPA = Top Problems Assessment.

^aRegions of significance encompass the observed range in the study. ^b $n = 438$. ^c $n = 396$. ^d $n = 493$. ^e $n = 431$. ^f $p = .048$. ^g $n = 316$. ^h $n = 248$. * $p < .001$.

Table 4*Summary of Ethnicity $\times$ Income as a Predictor of Modular Approach to Therapy for Children Symptom Improvement Trajectories*

Outcome	Black $\times$ Income			Latinx $\times$ Income			Multiethnic $\times$ Income			R^2
	b	p	q	b	p	q	b	p	q	
Quarterly outcomes										
Caregiver, CBCL, Int ^a	0.19 [−0.23, 0.6]	.38	.58	0.07 [−0.36, 0.50]	.76	.89	−0.17 [−0.54, 0.21]	.39	.92	.00
Caregiver, CBCL, Ext ^a	0.18 [−0.19, 0.54]	.34	.58	−0.04 [−0.41, 0.33]	.84	.90	0.05 [−0.27, 0.38]	.75	.92	.00
Caregiver, CBCL, Ttl ^a	0.12 [−0.25, 0.50]	.52	.61	−0.11 [−0.50, 0.28]	.59	.89	−0.14 [−0.48, 0.19]	.40	.92	.00
Youth, YSR, Int ^b	−0.51 [−1.02, 0.01]	.05	.25	−0.01 [−0.54, 0.53]	.98	.98	−0.22 [−0.70, 0.27]	.38	.92	.00
Youth, YSR, Ext ^b	−0.19 [−0.61, 0.24]	.39	.58	0.13 [−0.31, 0.57]	.57	.89	0.08 [−0.32, 0.48]	.69	.92	.00
Youth, YSR Ttl ^b	−0.32 [−0.80, 0.16]	.20	.58	0.13 [−0.37, 0.64]	.60	.89	0.05 [−0.40, 0.51]	.82	.92	.00
Weekly outcomes										
Caregiver, BPC, Int ^c	0.03 [−0.17, 0.22]	.79	.79	−0.12 [−0.31, 0.08]	.24	.75	−0.02 [−0.21, 0.16]	.81	.92	.00
Caregiver, BPC, Ext ^c	0.11 [−0.08, 0.30]	.27	.58	−0.15 [−0.34, 0.04]	.13	.61	0.00 [−0.18, 0.18]	.99	.99	.00
Caregiver, BPC, Ttl ^c	0.13 [−0.20, 0.46]	.45	.58	−0.27 [−0.60, 0.05]	.10	.61	−0.03 [−0.34, 0.28]	.86	.92	.00
Youth, BPC, Int ^d	−0.25 [−0.45, −0.04]	.02	.25	0.04 [−0.17, 0.25]	.73	.89	−0.05 [−0.26, 0.15]	.61	.92	.00
Youth, BPC, Ext ^d	−0.10 [−0.29, 0.08]	.28	.58	−0.11 [−0.29, 0.08]	.27	.75	−0.02 [−0.29, 0.08]	.82	.92	.00
Youth, BPC, Ttl ^d	−0.36 [−0.70, −0.01]	.04	.25	−0.07 [−0.42, 0.27]	.69	.89	−0.09 [−0.42, 0.25]	.62	.92	.00
Caregiver, TPA ^e	−0.12 [−0.64, 0.39]	.63	.68	−0.25 [−0.52, 0.02]	.07	.61	−0.06 [−0.28, 0.15]	.55	.92	.00
Youth, TPA ^f	0.22 [−0.36, 0.80]	.46	.58	−0.08 [−0.41, 0.24]	.61	.89	−0.38 [−0.65, −0.11]	.01	.08	.00

Note. For inclusion in analyses, the measure had to be administered, youths provided at least one data point for analysis, predictor data were not missing, and youth ethnicity was not Asian or other ethnicity. CBCL = Child Behavior Checklist; Int = internalizing; Ext = externalizing; Ttl = total; YSR = Youth Self-Report; BPC = Brief Problem Checklist; TPA = Top Problems Assessment.

^a*n* = 425. ^b*n* = 383. ^c*n* = 474. ^d*n* = 416. ^e*n* = 299. ^f*n* = 237.

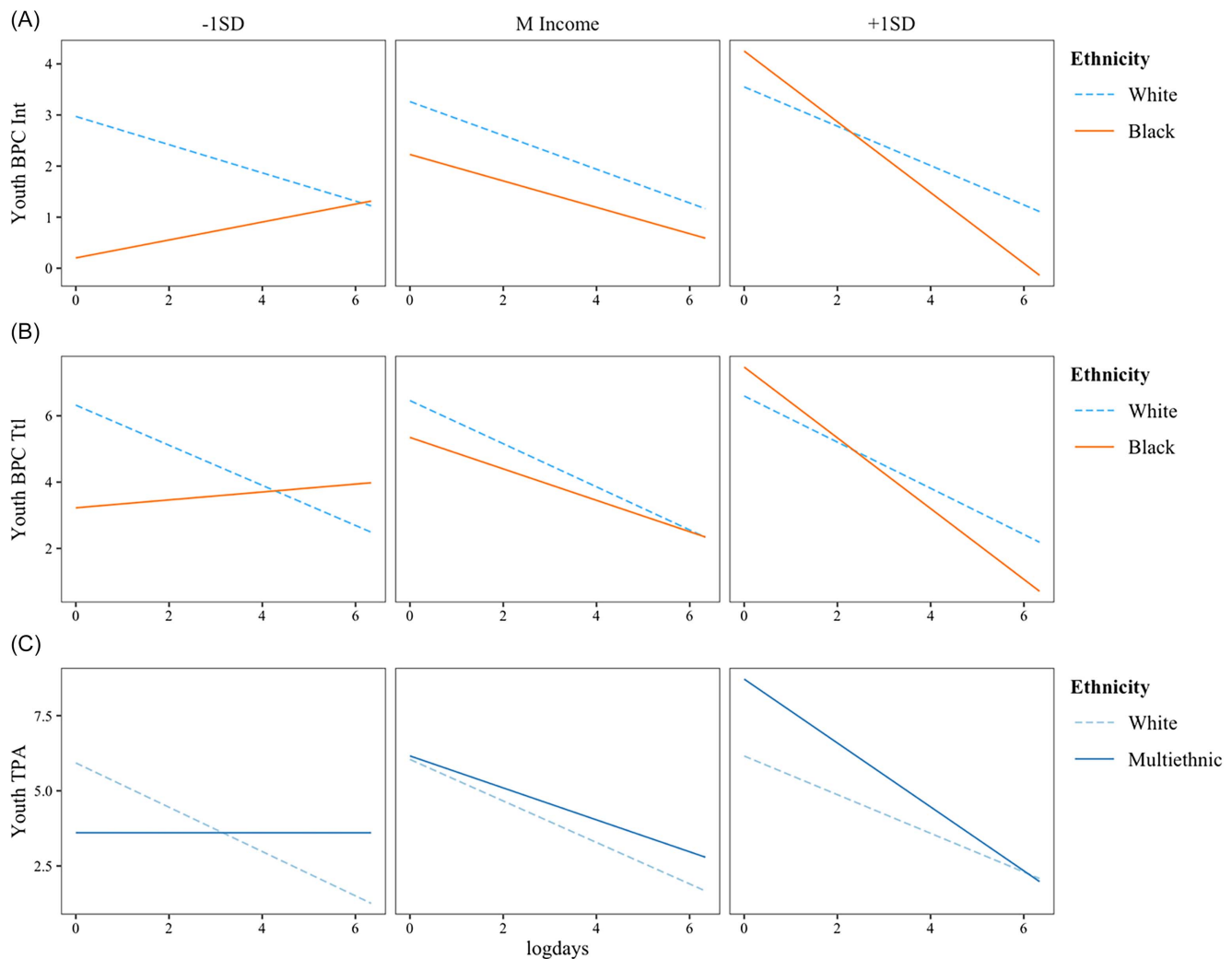
improved at low ($b = -0.27, p = .003$), mean ($b = -0.31, p < .001$), and high ($b = -0.36, p < .001$) income levels. The same pattern was observed for the BPC total symptom improvement ($b = -0.36, p = .04, q = .25$). Black youths did not improve at low ($b = 0.24, p = .35$) and mean ($b = -0.30, p = .10$) income levels but improved at high-income levels ($b = -0.83, p = .01$), whereas White youths improved at low ($b = -0.60, p < .001$), mean ($b = -0.64, p < .001$), and high ($b = -0.68, p < .001$) income levels. A similar pattern was observed for multiethnic and White youths on the weekly youth TPA symptom improvement ($b = -0.38, p = .01, q = .08$), such that multiethnic youths' symptom improvement grew faster with increased income. Again, multiethnic youths did not improve at low ($b = 0.13, p = .65$) and mean ($b = -0.35, p = .05$) income levels but improved at high-income levels ($b = -0.83, p < .001$), while White youths improved at low ($b = -0.75, p < .001$), mean ($b = -0.71, p < .001$), and high ($b = -0.66, p < .001$) income levels. These three significant prediction effects were nonsignificant after adjusting for multiple tests, and all effect sizes fell below the threshold for a small effect. Clinical significance analyses showed no significant ethnicity by income group differences on improvement from clinical to subclinical levels on quarterly measures or reliable change on weekly measures (all $qs > .05$).

Discussion

Using a multi-trial sample of youths who received MATCH in community mental health settings, the present study explored whether ethnicity and family income predicted MATCH clinical outcomes. In harmony with prior research on EBP outcomes (Huey et al., 2023; Pina et al., 2019), ethnicity did not predict MATCH outcomes. Symptom improvement was comparable between youths of color and White youths on all standardized internalizing and externalizing symptoms and youth- and caregiver-self-identified treatment

targets. Family income also did not predict any outcomes, suggesting symptom improvement was comparable across income levels. Finally, the interaction of ethnicity and income did not predict any outcomes, suggesting that the impact of ethnicity and income on outcomes did not vary at levels of the other. Further, clinical significance analyses did not evidence significant ethnic- or income-based differences on all but one measure. These encouraging findings in a large, diverse sample, together with MATCH's personalized nature and consistency with established youth EBPs, may make the modular MATCH approach a promising option when there is limited evidence for existing EBPs for a given youth's ethnic and income background (Pina et al., 2019). We briefly note, however, that nonsignificant differences tended to favor outcomes for White and higher income youths, as suggested in some prior research (e.g., Huey et al., 2023). To further inform decision making around treatment selection, it could be useful to investigate whether ethnicity and income moderate youths' response to usual care in clinical settings and to differences between usual care and MATCH, provided that the nature and contents of usual care are well-documented. This would permit clarity regarding the kinds of treatments to which findings could be generalized, and it would also permit analyses of whether the treatments provided to minoritized youths differ substantially from the treatment provided to majority youths.

These findings should be considered in light of several limitations. First, this study was a secondary data analysis, and the research questions were not the focus of the original studies. Consequently, data collection methods used in the parent trials were not optimally suited for the present study's research questions. In particular, race and ethnicity were assessed in a single caregiver-reported variable that conflated race and ethnicity. Moving forward, in addition to examining treatment outcomes by racial and ethnic groups separately, it will be important to measure proximal factors (e.g., acculturation, experiences of adversity, cultural responsiveness of the clinician;

Figure 1*Interactive Effect of Ethnicity and Income on Modular Approach to Therapy for Children Symptom Improvement Trajectories*

Note. The figure shows an illustration of the three-way interactions (Logdays $\times$ Ethnicity $\times$ Income), which were significant prior to the false discovery rate correction and nonsignificant after correction. Trajectories for outcome measure (rows) for the two contrasted ethnic groups (lines) are plotted at the M and $M \pm 1$ SD of income (columns). (A) The difference between Black and White youths' BPC internalizing trajectories varied by income. (B) The difference between Black and White youths' BPC total trajectories varied by income. (C) The difference between multiethnic and White youths' TPA trajectories varied by income. BPC = Brief Problem Checklist; Int = internalizing; Ttl = total; TPA = Top Problem Assessment. See the online article for the color version of this figure.

American Psychological Association Task Force on Race and Ethnicity Guidelines in Psychology, 2019; Ruphrecht-Smith et al., 2024) that explain any observed racial and ethnic treatment disparities to inform future treatment development and modifications. Additionally, multiethnic youths were categorized as a single group, which may mask important heterogeneity among these youths. Family income was also originally collected as a categorical variable, requiring the midpoint of the reported income range with a cap at \$140,000 to calculate the federal poverty threshold variable. While this approach has been shown to produce poverty estimates similar to using exact income (Badgett et al., 2019), it may have limited the accuracy of our income predictor variable and masked disparities that could exist across the full income continuum (Nuru-Jeter et al., 2018). Our sample was also largely low-income, which may have limited

opportunities to detect income differences. Our use of income as our sole socioeconomic status indicator precluded exploration of other indices that have shown differential impacts on adult treatment outcomes (Finegan et al., 2018). However, given that inconsistent measurement of socioeconomic status across studies has impeded prior research (Finegan et al., 2018), the use of a consistent income variable is a strength of this multistudy secondary data analysis. Moving forward, research using the full range of multiple socioeconomic status indices is needed to identify the specific, and targetable, mechanisms through which socioeconomic status may influence treatment outcomes. Second, Asian and other ethnicity youths were excluded from analyses exploring ethnicity as a predictor, although Asian heritage was reported for many youths in the multiethnic group. Asian youths have the lowest representation in clinical

trials, and some research suggests that their representation has not changed over time (Polo et al., 2019), though they are one of the fastest growing groups in the country (Vespa et al., 2018). It should also be noted that a substantial portion of Black (75%) and Latinx (53%) youths in the pool of 537 youths did not contribute to the TPA and CBCL/YSR analyses, respectively, due to differences in measures across studies. Underrepresentation of these groups limits the generalizability of our findings. Building upon this exploratory work, evaluations of MATCH and other youth psychotherapies with large and representative samples are needed. Third, in controlling for differences between trials, our analyses may have masked site- and trial-based differences that warrant empirical investigation.

The study also has several strengths and points to future avenues of research. First, the study addresses the gap in the literature on personalized, modular, transdiagnostic treatment outcomes for minoritized youths and more broadly contributes to the growing evidence base for psychotherapy for minoritized youths. Second, by including an interactive effect of ethnicity and income, the study expanded upon the typical approach of exploring outcomes solely by ethnicity or income or their unique effects using statistical control (Nuru-Jeter et al., 2018) and shed light on treatment outcomes for youths with multiple minoritized identities. Third, we pooled data across five trials conducted in multiple states over a decade, allowing us to explore outcomes in a large sample of youths who received the same intervention from practicing clinicians in routine mental health care settings.

Moving forward, one important research direction will be to explain why, when differences are observed (e.g., Huey et al., 2023; Pina et al., 2019), outcomes tend to be poorer for minoritized youths. Moving beyond testing and reporting of group-specific outcomes to identifying modifiable social determinants of these observed disparities may point to promising directions for targeted interventions to achieve mental health equity (Alegria et al., 2022; Castro-Ramirez et al., 2021; Kilbourne et al., 2006). Complementary to the societal and policy-level efforts to target social determinants of health, modifiable factors within the health care system (e.g., provider, client, clinical encounter, health care organization factors) can be targeted to reduce care disparities (Kilbourne et al., 2006). A recent spatial meta-analysis of youth psychotherapy trials found that state-level anti-Black racism was associated with poorer treatment outcomes in studies with majority-Black samples (Price et al., 2022). These authors and others who have theorized that self-efficacy to cope with experiences of racial discrimination impacts Black youths' mental health (e.g., Anderson & Stevenson, 2019) have called for research on psychotherapies that directly address these experiences in psychotherapy. Indeed, addressing experiences of racism and discrimination in treatment is one strategy for incorporating culture into EBPs for youths of color (Park et al., 2023) and has been shown to improve treatment outcomes among Black adults (Webb Hooper et al., 2017). Adjunctive modules that address experiences of racial discrimination could be developed and integrated into personalized, modular treatments like MATCH to flexibly respond to cultural considerations for each youth while retaining the core elements of effective interventions (Lau, 2006; Price et al., 2022). Additionally, income and other indices of socioeconomic status may interact with structural barriers (e.g., transportation, financial costs, child care, time off work) that hinder treatment engagement (Becker et al., 2018), considered a necessary prerequisite for clinical outcomes (Proctor et al., 2011). When economic stress interferes with treatment, using strategies that

enhance treatment engagement could ultimately enhance clinical outcomes (Becker et al., 2018; Park et al., 2023). Continued research on which strategies enhance minoritized youths' psychotherapy outcomes, and when and how to integrate these strategies into youth psychotherapies, is needed to guide effective and appropriate tailoring of psychotherapy for minoritized youths (Huey et al., 2023; Park et al., 2023; Price et al., 2022).

The present study suggests that the clinical outcomes of MATCH are generally robust across diverse youths for common youth mental health concerns when treated in community settings. Coupled with prior research demonstrating its promise for sustained implementation in community settings, these findings support MATCH as a promising treatment for minoritized youths. Moving forward, research that explains observed disparities in EBP outcomes may well inform the development of strategies to enhance psychotherapy outcomes for minoritized youths and families.

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