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Adolescent Behavioral Health Problems are Associated with Parent Perceptions of Evidence-Based Therapy and Preferences when Seeking Therapeutic Support

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Abstract

Informational materials from psychological associations often encourage parents to seek out "evidence-based therapies" (EBTs) to address their child's behavioral health concerns. This study examined whether parents concerned about their adolescents' substance use had distinct preferences for EBT principles and marketing language based on their adolescent's specific behavioral health problems. Parents (N = 411; 86% female; 88% non-Hispanic White) of adolescents (age 12-19 years) completed an online direct-to-consumer (DTC) marketing survey as part of a larger multi-phase study. Parents reported their adolescents had high rates of current externalizing (66%), internalizing (51%), substance-related (39%), and legal (25%) problems. Parents answered questions about their perceived definition of EBT, whether they valued underlying EBT principles (i.e., reliance on a proven approach vs. a varied approach), their preferred terms for describing EBT, and factors they considered when choosing a therapist. Most parents defined EBT correctly, regardless of their adolescent's behavioral health problems. Parents of adolescents with internalizing or legal problems were less likely to value EBT principles, with legal problems emerging as the more important multivariate predictor. Additionally, parents of adolescents with substance-related or legal problems had distinct preferences for the terms used to describe EBTs. Finally, parents of adolescents with externalizing problems had distinct preferences for factors they considered when choosing a therapist. Psychologists and psychological associations seeking to disseminate information about EBTs to parents can utilize

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these DTC marketing-informed results to tailor outreach strategies based on adolescent behavioral health problems.

Keywords

Direct-to-consumer marketing; adolescent; mental health; substance use

Eager to increase the utilization of evidence-based therapies (EBTs) for youth with behavioral health problems, national and state-level psychological associations have created informational materials to improve parents' knowledge and awareness of EBT (see Okamura et al., 2018). Materials by the American Psychological Association's Division of Child and Adolescent Psychology (Society of Clinical Child & Adolescent Psychology, 2019) and the National Institute on Drug Abuse (National Institute on Drug Abuse, 2014), respectively, recommend that parents seek out "evidence-based therapies" and interventions that "have an evidence base supporting their use." Critically, this approach presumes that parents understand the concept of "EBT" and view it favorably.

Unfortunately, several studies have shown that potential consumers of behavioral health services often are unfamiliar with EBT and may misunderstand the underlying principles. One survey found that adult healthcare consumers (defined as adults with health insurance) did not understand "evidence-based" care and were skeptical of the concept (Carman et al., 2010), while a qualitative interview study found that adults with mental health disorders had negative impressions of "evidence-based" care as formulaic and insensitive to patient concerns (Tanenbaum, 2008). Another qualitative study of adolescents with substance use problems and their parents similarly revealed that many participants defined EBT incorrectly, misunderstood the concept, and did not view the approach as appealing (Becker et al., 2016). Most recently, a survey of Internet using adults found that only 20% of participants correctly defined evidence-based mental health care (Mora Ringle et al., 2020). Taken together, these findings highlight a disconnect between efforts to disseminate information about EBTs and how that information is received by consumers of behavioral health services.

To refine patient-directed communication, researchers have increasingly employed direct-to-consumer (DTC) marketing strategies to tailor messages about EBT for youth (Barnett, Bernal, & Sanchez, 2019; Gallo, Comer, Barlow, Clarke, & Antony, 2015). Extensive data have shown that DTC marketing increases demand for prescription drugs (Schwartz & Woloshin, 2019), although its use by for-profit companies has not been without controversy (see Ventola, 2011). For behavioral health treatments, emerging data suggest that when DTC marketing is used ethically (e.g., to promote health literacy, emphasize evidence-based practices, engage hard-to-reach families), it can be a value component of a comprehensive strategy to improve access to care (see Friedberg & Bayar, 2017). A critical first step in informing such DTC marketing efforts is to understand how the target consumer understands and perceives EBT (Becker, 2015; Friedberg & Bayer, 2017). In a DTC marketing survey of parents concerned about their adolescent's substance use (N=411; Becker et al., 2018), we found that parents from racial/ethnic minority groups, with lower income, and with lower

education were each more likely to define EBT incorrectly, have negative impressions of the concept, and prefer distinct terms to describe EBT. This work had important implications for developing tailored DTC strategies, by highlighting differences in parent preferences as a function of socio-demographic variables.

Building upon this prior work, the current analysis sought to examine whether parents' impressions and preferences for EBT terms, treatment principles, and therapist selection varied as a function of four types of adolescent behavioral health issues: internalizing, externalizing, substance-related, and legal problems. This analysis was embedded within a larger three-phase trial focused on parents broadly concerned about adolescent substance use (see Becker et al., in press); however, adolescents did not need to have current substance-related problems or a substance use diagnosis and could have various combinations of the focal concerns. We assessed the effect of adolescent externalizing and internalizing problems on parent preferences because approximately two-thirds of adolescents with a substance use disorder meet diagnostic criteria for at least one co-occurring mental health disorder (Chan, Dennis, & Funk, 2008). We also examined the effect of adolescent substance-related problems, based on prior work indicating that substance use symptom severity is a significant predictor of parents' treatment-seeking behavior (Helseth et al., 2019; Kessler et al., 2001). Finally, we assessed the influence of legal problems, as the juvenile justice system represents the largest single pathway to adolescent substance use treatment (Center on Addiction and Substance Abuse at Columbia University, 2011). Our overarching goal was to provide actionable, DTC-informed recommendations for psychologists and psychological associations seeking to tailor messages to parents of adolescents with distinct behavioral health problems.

Methods

Participants and Procedures

Study procedures have been reported elsewhere (Becker et al., 2018) and are briefly summarized here. The study was deemed exempt from the University institutional review board due to the lack of identifying information collected. Participants were parents and/or legal guardians (hereafter referred to as "parents") of adolescents (N = 411) recruited from high schools in the northeast, parent Facebook groups, and behavioral health provider listservs. Parents completed an online screener containing multiple safeguards, including IP address confirmation, prevention of duplicate screening using cookies, and a multiple-choice question with fake response options about their referral source. In addition to passing these safeguards, participants had to: a) reside in the United States; b) be the parent of an adolescent (12-19 years); and c) report concerns about their adolescent's substance use (i.e., respond to the question "How concerned are you about your adolescent's substance use?" with a score of 4+ on a 5-point Likert scale with responses ranging from 1 = *not at all* to 5 = *extremely concerned*). We screened for parental concern about substance use, because this survey was part of a larger three-phase study on marketing EBTs to parents of adolescents with or at risk of substance-related problems (Becker et al., in press). Parents of multiple adolescents were explicitly instructed to "please pick the one [adolescent] you are most concerned about when answering the questions."

Survey Items

This study explored five items from the larger DTC survey about seeking therapy for adolescent substance use treatment: four nominal and one rank-order. For the nominal items, parents were asked to select the correct definition of EBT (therapy based on research) from a list of possible definitions; indicate whether they valued a principle underlying EBTs (therapist uses proven approach vs. different approach with every teenager); and indicate preferred terms for two ways of describing EBT (therapy based on evidence, research, or science; and effective therapy, proven therapy, successful therapy, or therapy that works). The rank-order item asked parents to rank the following factors for choosing a therapist in order of importance (1 = *most important*, 3 = *least important*): therapist can get the teen in the fastest; therapist is most accessible (affordable and convenient); therapist is the highest quality. Response options were based on prior qualitative research on parent perceptions of EBT (Becker et al., 2016). Survey items are included in Appendix A: of note, three of these items were previously analyzed (Becker et al., 2018) using parent socio-demographic variables. The current analysis is the first to examine the effect of adolescent behavioral issues on these items. For the items analyzed in this paper, the Flesch-Kinkaid reading grade level was 8.5.

Adolescent Problems

The Global Appraisal of Individual Needs (GAIN)-Short Screener (GAIN-SS; Dennis, Chan, & Funk, 2006) measured parent impressions of the presence of externalizing (5-items; e.g., inattention, aggression, difficulty following directions); internalizing (5-items; e.g., suicidality, depression, anxiety, trauma); and legal (5-items; e.g., property crime, interpersonal violence, drug-related crime) problems in the past year. The GAIN-SS has demonstrated strong sensitivity (90%) and specificity (92%) for correctly identifying the presence of behavioral health problems, with internal consistency for behavioral health subscale ranging from $\alpha = .65$ to .81 (Dennis, Chan, & Funk, 2006). A count of past-year adolescent substance-related problems was obtained via the 16-item Substance Problem Scale from the full-length GAIN ($\alpha = .90$; Dennis, White, Titus, & Unsicker, 2008). Cronbach's alphas in this sample were .86 for the GAIN-SS items and .96 for the GAIN Substance Problem Scale.

Data Analysis

Behavioral health variables (i.e., externalizing, internalizing, substance use, and legal problems) were dichotomized to reflect the presence or absence of past-year problems in each domain, reflecting our goal to inform DTC marketing to parents of adolescents with distinct presenting problems. Correlations among binary behavioral health variables using phi coefficients indicated that all predictors were significantly correlated with small to moderate associations (ϕs = 0.23-0.48, ps < .001): associations were small to moderate, providing no evidence of multi-collinearity (Schroeder, Lander, Levine-Silverman, 2016). Chi-square analyses evaluated differences in parent responses to the four categorical survey items by each behavioral health variable. *T*-tests evaluated differences in parent rankings of therapist factors by each behavioral health variable. When multiple predictors were associated with a specific response, the relative importance of each predictor was examined

with multivariate linear or logistic regression. To adjust for the multiple univariate analyses conducted across the four problem areas, a group-level Bonferroni correction was applied. Results are only reported for univariate analyses meeting the adjusted criterion of $p \leq .0125$ ($\alpha = .05/4$ groups), and only those variables meeting this criterion were included in the multivariate regressions. The multivariate analyses used a standard $p < .05$ criterion.

Results

Sample Characteristics

Eight hundred forty-four screeners were received and 633 were valid: 211 (25%) were excluded for not passing all safeguards (e.g., 106 IP addresses did not match where participants reported taking the survey; 60 IP addresses indicated a duplicate attempt; and 45 screeners did not pass the validity check question about where the advertisement had been posted). Another 133 were excluded because the parent was not concerned about their adolescent's substance use ($n = 122$) or their adolescent was not 12-19 years old ($n = 11$). Of the 499 parents who qualified, a total of 411 (82%) completed the survey.

In the final sample, most parents were female (86%), non-Hispanic White (88%), and 45-54 years old (56%). Parents were generally employed full time (64%) and well-educated (66% had a bachelor's degree). Median income per capita was $25,000, which is below the national average. Adolescents were nearly evenly split across gender (51% female) and were predominantly non-Hispanic White (82%), with an average age of 16.1 ($SD = 1.8$). According to parent-report, adolescents experienced externalizing (66%), internalizing (51%), substance-related (39%), and 25 legal (25%) problems; 82% of parents reported their adolescent had at least one problem, and 58% reported two or more behavioral problems. Notably, more parents reported mental health than substance-related problems, despite being screened for concerns about substance use. Thus, study findings likely have implications for parents concerned about adolescent behavioral health problems more broadly.

Definition of EBT

Table 1 displays responses to the focal survey items. Nearly 80% of parents selected the correct EBT definition (i.e., evidence based on research studies). No adolescent behavioral health variables moderated this preference, χ^2s (1, $N = 411$) ≤ 2.52, ps ≥ .11.

EBT Principles

For the item examining underlying EBT principles, most parents (57%) preferred therapists who used a proven, consistent approach relative to a different approach with every teenager. However, parents of adolescents with internalizing problems, χ^2 (1, $N = 411$) = 6.27, $p = .0123$, or legal problems, χ^2 (1, $N = 411$) = 7.83, $p = .005$, were significantly *less* likely to prefer a proven approach. Only legal problems remained significant in the multivariate model: parents of adolescents with legal problems had 1.65 times greater odds of preferring a different approach with every teenager, OR = 1.65, SE = 0.24, $p = .04$.

Alternative Terms to Describe EBT

Two items examined parent preferences for terms to describe EBT. The first explored whether parents preferred the concept of therapy based on evidence, research, or science. A slight majority of parents (57%) preferred the concept "therapy based on evidence." However, preferences varied as a function of both substance-related and legal problems. Parents of adolescents *without* substance-related problems more strongly preferred "therapy based on research," χ^2 (1, N = 411) = 6.99, p = .008, whereas parents of adolescents *with* legal problems more strongly preferred "therapy based on science," χ^2 (1, N = 411) = 10.54, p = .001.

The final categorical item explored simple adjectives parents preferred to describe EBT. Most parents (48%) preferred the term "effective," with none of the behavioral health variables moderating this preference.

Factors in Choosing a Therapist

The rank-order item asked parents to rank how important each of three factors were when choosing a therapist (see Appendix A). Overall, parents ranked high quality care as most important, accessibility as second most important, and finally, wait time as third most important. Accessibility was ranked significantly higher by parents of adolescents with externalizing, $t(409) = 3.38$, $p < .001$ and legal problems, $t(409) = 2.52$, $p = .0120$, relative to parents of adolescents without those problems. Only externalizing problems remained significant in the multivariate model: after controlling for adolescent legal and substance use problems, parents of adolescents with externalizing problems ranked accessibility significantly higher than parents of teens who did not have externalizing problems, $\beta = 0.13$, SE = 0.08, $p = .01$. Reflecting their relative preference for accessibility, parents of adolescents with externalizing problems ranked wait time as less important, $t(409) = 2.56$, $p = .011$.

Discussion

This study examined whether adolescent behavioral health symptoms were associated with parents' perceptions of EBTs in an effort to inform how such therapy should be marketed to parents. Results indicated that parents' preferences consistently varied as a function of adolescent behavioral health problems, with legal and externalizing problems emerging as the most important and consistent predictors.

With regards to underlying EBT principles, parents of adolescents with legal or internalizing problems were both less likely to value a proven approach, though only legal problems remained significant in the multivariate analysis. These results are consistent with our prior work suggesting that parents of adolescents in the legal system have unique concerns about evidence-based practice (Becker et al., 2016). Parents of adolescents in the legal system would likely benefit from customized education about EBT principles and/or customized marketing strategies emphasizing the ability to tailor treatment to each adolescent's needs.

Legal and substance-related problems also influenced what terms parents preferred to describe EBT. While all parents preferred the concept of "therapy based on evidence,"

parents of adolescents with legal problems were relatively more likely to prefer "therapy based on science," whereas parents of adolescents with substance-related problems were relatively more likely to prefer "therapy based on research." These findings suggest that adolescents' behavioral health problems might affect how parents interpret terms used in DTC marketing materials. Our prior qualitative research would suggest that parents of adolescents in the legal system might be relatively more likely to prefer "therapy based on science," precisely because of their familiarity with the juvenile justice system and negative connotations of the term "evidence" as implying legal evidence (Becker et al., 2016). It was noteworthy, however, that all parents liked the term "effective" to describe EBT and that this preference did not vary as a function of the adolescent's behavioral health problems. When tailoring DTC marketing to parents of adolescents with legal or substance-related problems, messaging about EBTs could potentially stay away from the term "evidence" and instead use lay language such as "effective" and "therapy that works."

Regarding therapist selection, all parents ranked therapist quality as the most important factor, though the relative importance of other factors varied as a function of adolescent behavioral health problems. Parents of adolescents with externalizing and legal problems ranked therapist accessibility higher than parents whose teens did not have these problems, with externalizing problems emerging as the most important predictor in multivariate analysis. Parents of adolescents with externalizing problems also ranked wait time as less important than parents whose teens did not have these problems, which reflected their relative preference for accessibility. These results indicate that DTC marketing strategies targeting parents of adolescents with externalizing problems may be better-received if they emphasize how the treatment is accessible and high-quality. Consistent with a wealth of marketing literature emphasizing the importance of service quality (see Parasuraman, Zeithaml, & Berry, 1985), DTC marketing strategies should seek to harness parents' preference for high-quality treatment, as highlighting service quality may help drive demand for EBTs among parents.

Finally, in contrast to prior studies (Becker et al., 2016; Ringle et al., 2020), we found that the majority of parents selected the correct definition of EBT, and that the ability to define EBT correctly did not vary as a function of adolescent behavior problems. The discrepancy between our findings and prior studies likely reflects the nature of the response options. Prior studies have used open-ended questions without any contextual guidance to ask parents to define EBT, while the current study asked parents to select from a set of options. Our findings provide encouraging data that parents can define EBT correctly when context clues are provided.

Limitations

The present findings should be considered within the context of several limitations. First, the GAIN-SS questions were designed to serve as a brief self-report screener to be completed by adolescents and have not been validated for use as a parent-report screener. Similarly, the survey items were developed by the researchers based on formative work and have not been psychometrically validated. The development of psychometrically valid tools to assess parents' impressions of EBT has been recognized as a major priority for the field of DTC

marketing for behavioral health treatments (Choy, Chang, & Nakamura, 2019). Additionally, the generalizability of the results may be limited by our recruitment of parents concerned about their adolescent's substance use. It is possible that parents concerned about their adolescent's mental health, without any concern about substance use, may have different preferences. Finally, results are constrained by the characteristics of the parent sample which was predominantly Non-Hispanic White and female.

Marketing Implications

This study sought to evaluate the role of adolescent behavioral health problems on parents' preferences for EBTs to guide messages in DTC marketing efforts. In particular, parents of adolescents with legal and externalizing problems consistently emerged as having distinct preferences for DTC marketing strategies, namely the terms used and aspects of EBT service delivery highlighted. Professional psychologists seeking to disseminate information about therapy to parents of adolescents with legal problems might need to carefully tailor the wording and content of messages, as these parents have distinct preferences for the terms used to describe EBT and were less likely to value EBT principles. Additionally, professional psychologists attempting to reach parents of adolescents with externalizing behavior might benefit from emphasizing the quality and accessibility of the therapist. Dissemination efforts would also likely benefit from shying away from the term "evidence" in favor of lay language such as "effective." Researchers, professional psychologists, and other experts must continue to build knowledge of marketing preferences of treatment-seeking parents to inform tailored educational and outreach materials that maximize promotion of EBTs.

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Appendix A.

Direct-to-Consumer Marketing Survey Items Described in this Paper

*indicates that the survey item was included in the analyses conducted by Becker et al. (2018), which examined differences in responses by demographic factors.

There are different types of therapy for adolescents with substance use problems. Some therapies are called "evidence-based therapy."

*When you hear "evidence-based" therapy, which of the following explanations sounds most accurate to you? Please select one response.

- Therapy based on proof that your teen is using.
- Therapy based on research studies comparing different therapy approaches.

- Therapy based on your teen's personal medical history.
- Therapy based on the therapist's personal experience.
- Therapy based on genetic testing.

"Therapy based on research studies comparing different therapy approaches" is the correct answer.

*Which of the following therapists would you prefer?

- A therapist that uses approaches that have been proven to work for teenagers
- A therapist that uses a different approach with every teenager

Which of the following concepts do you prefer? Please select one response.

- Therapy based on evidence
- Therapy based on research
- Therapy based on science
- I don't like any of these concepts

It can be hard to find information about therapists. Please answer the following questions about how you would prefer to find information about a therapist.

*Which of the following descriptions of therapy do you prefer? Please select one response.

- Proven therapy
- Successful therapy
- Therapy that works
- Effective therapy

The next set of questions is about what you would PREFER if you were to bring your teen to a NEW therapist for concerns about alcohol, marijuana, or other drugs. If your teen is currently in therapy, please do NOT think about your current therapist. Please answer the questions by thinking about your ideal therapist.

Which of the following matters most to you when trying to find a new therapist for your teen? Please rank order the most important factors by numbering each option: 1 for most important, 2 for next most important, and 3 for third most important.

_____ Finding the therapist that can get my teen in the fastest

_____ Finding the therapist that is most accessible (affordable and convenient)

_____ Finding the therapist that is the highest quality

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Public significance statement:

This study found that parents' preferences for information about therapy depended on their teenagers' behavioral health problems. Psychologists and psychological associations can use these results to tailor informational materials based on behavioral health problems.

Table 1.

Survey Responses by Adolescent Externalizing, Internalizing, Legal, and Substance Use Problems

	Externalizing		Internalizing		Legal		Substance Use		Overall
	No *n*=139	Yes *n*=272	No *n*=201	Yes *n*=210	No *n*=307	Yes *n*=104	No *n*=252	Yes *n*=159	*N*=411
	%	%	%	%	%	%	%	%	%
EBT definition									
Correct definition	79.1	79.8	82.1	77.1	80.1	77.9	81.7	76.1	79.6
Principle underlying EBT									
Prefer proven therapy	63.3	53.7	63.2	51.0 *	60.9	45.2 *	59.9	52.2	56.9
Preferred EBT term #1									
Therapy based on evidence	57.6	57.0	57.2	57.1	57.3	56.7	54.8	61.0	57.2
Therapy based on research	28.8	25.7	29.9	23.8	27.4	25.0	31.3	19.5 *	26.8
Therapy based on science	2.2	5.1	3.0	5.2	2.3	9.6 *	3.2	5.7	4.1
Preferred EBT term #2									
Proven therapy	15.1	11.8	14.9	11.0	14.7	7.7	13.9	11.3	12.9
Successful therapy	19.4	17.3	20.4	15.7	17.6	19.2	17.9	18.2	18.0
Therapy that works	23.7	19.5	20.9	21.0	20.5	22.1	20.6	21.4	20.9
Effective therapy	41.7	51.5	43.8	52.4	47.2	51.0	43.8	49.1	48.2
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Therapist Selection									
High-Quality Care	1.24 (0.53)	1.32 (0.60)	1.25 (0.54)	1.33 (0.61)	1.26 (0.55)	1.38 (0.64)	1.26 (0.54)	1.35 (0.63)	1.29 (0.58)
Accessible	2.43 (0.69)	2.18 ** (0.72)	2.34 (0.70)	2.20 (0.73)	2.32 (0.71)	2.12 * (0.73)	2.33 (0.70)	2.17 (0.73)	2.27 (0.72)
Wait time	2.33 (0.61)	2.50 * (0.63)	2.41 (0.62)	2.47 (0.63)	2.42 (0.61)	2.50 (0.65)	2.41 (0.62)	2.48 (0.62)	2.44 (0.62)

Note.

* = $p < .0125$

** = $p < .001$

Percentages reflect the proportion of participants in each group who endorsed each response. Therapist Selection factors were ranked, with lower scores indicating a more important factor; EBT = evidence-based therapy