Can Less Be More? The Promise (and Perils) of Single-Session Youth Mental Health Interventions

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THE UNITED STATES SPENDS more money on health care than any other nation (Centers for Medicare and Medicaid Services, 2017), with psychiatric disorders ranking as the most costly conditions to treat ($201 billion annually, followed by $147 billion for heart disease; Roehrig, in press). Despite this investment, access to mental health services is strikingly low. An estimated 57% to 67% of adults experiencing mental illness in the United States do not receive needed services (SAMHSA, 2016). The need-to-access gap is even wider for children and adolescents: up to 80% of youths with mental health needs go without services each year (Cummings, Wen, & Druss, 2013).

With mental health care spending so high, how can service access be so low? Limited knowledge of effective treatments is not a likely cause: evidence-based psychosocial interventions have been identified for a broad array of mental health problems, with hundreds for children and adolescents alone (National Registry of Evidence-Based Programs and Practices, http://www.nrepp.samhsa.gov/). Rather, the problem might stem from the structure of these interventions. They are generally designed for delivery in brick-and-mortar clinics, in a one-to-one format, and by highly trained mental health professionals. They are also expensive in both time and money, spanning multiple sessions over many weeks (tested youth psychosocial therapies average 16 sessions; Weisz et al., 2017). These features make them difficult to disseminate on a broad scale. Time-intensive, clinic-based treatment may be particularly difficult to access for youths with mental health needs, as only 63% of U.S. counties have a mental health treatment facility for children and adolescents (Cummings et al., 2013). Even among youths who do access care, most drop out prematurely, completing just over 3 therapy sessions on average (Harpaz-Rotem, Leslie, & Rosenheck, 2004).

Given these concerns, some have called for a "rebooting" of mental health interventions and delivery systems, which, in their current forms, may not be able to markedly reduce the burden of mental illness (Kazdin & Blase, 2011; Rotheram-Borus, Swendeman, & Chorpita, 2012). Rotheram-Borus et al. (2012) suggest that a "disruptive innovation" model (Christensen, 2006) might guide the development of more affordable, scalable psychological interventions. Rather than focusing on services for the most complex, high-need clients, a disruptive innovation provides a simpler, less costly alternative that meets the needs of a majority of clients. Community colleges, for instance, offer less intensive and specialized services than 4-year universities, yet they meet many students' basic educational needs, and they are available to far more people at much lower costs (average U.S. community college tuition is $3,435, vs. $9,410 at public 4-year institutions and $23,893 for out-of-state students; Ma & Baum, 2016). Notably, community colleges have not replaced more comprehensive, specialized alternatives, for which there continues to be great demand. However, they have dramatically broadened access to the education that many people seek.

Applied to mental health care, disruptive innovation might be accomplished through brief interventions delivered through nontraditional means (e.g., via computers, smartphones, or individuals without psychotherapy training). These interventions may include core, theoretically driven elements of comprehensive, evidence-supported therapies. However, their brevity and flexible format could make them disseminable to those who might not otherwise access care—and for whom a targeted, "light touch" intervention might be just enough. Here we consider an especially light-touch approach: single-session interventions, or SSIs. Given the large need-to-access gap among youths, we focus on the promise of SSIs for prevention and treatment of youth mental health problems. In the sections below, we describe cross-disciplinary precedents for exploring SSIs for youth mental health problems; review results from a recent meta-analysis (Schleider & Weisz, 2017) of SSIs' effects on youth psychopathology; highlight limitations of SSI research to date; and discuss next-steps and questions regarding SSIs for youth psychological problems, specifically related to scaling-up service dissemination to youths with mental health needs.

SSIs Can Effect Lasting Change: Lessons From Social Psychology, Education, and Public Health

SSIs represent a relatively new research frontier for youth mental health researchers. However, there is a rich scientific history suggesting the promise of SSIs for positive youth academic, physical, and emotional outcomes (Yeager & Walton, 2011). SSIs have increased happiness and hope in adolescents (Feldman & Dreher, 2012); mitigated the adverse effects of stereotype threat on academic achievement among ethnic/racial minority youth, and girls studying math and science, from elementary school through college (Aronson et al., 2009; Martens, Johns, Greenberg, & Schimel, 2006); reduced HIV infection among high-risk adolescents (Eaton et al., 2012); strengthened perceived control, physiological stress recovery, and anxiety and depressive symptoms in adolescents high in internalizing distress (Schleider & Weisz, 2016; Schleider & Weisz, in press); and improved physical health, academic motivation, and adaptive coping with peer stressors in middle- and high-school-aged youth (Yeager et al., 2012; Yeager, Lee, & Jamieson, 2016).

These powerful, 5-to-90-minute SSIs share at least two common features, which likely contribute to their effectiveness. First, they are all mechanism-targeted interventions: carefully constructed, theoretically precise programs that address specific maladaptive beliefs or behaviors thought to underlie outcomes of interest. Academic motivation SSIs, for example, have focused on instilling the belief that intelligence is malleable (rather than fixed) by nature—i.e., a "growth mindset" of intelligence—to increase persistence in the face of achievement-related setbacks. Stereotype threat SSIs have included self-affirmation and social belongingness exercises, designed to challenge the feelings of otherness, performance concerns, and associated distress that stereotype threat can imbue. By focusing on these empirically identified change mechanisms, SSIs clearly communicate a cohesive, high-impact take-away message (e.g., "intelligence can change"; "failure is necessary for personal growth"). These features appear to boost

their capacity to enhance adaptive beliefs, behaviors, and longer-term functioning.

Second, many of these SSIs have targeted developmentally- or population-specific needs. Interventions designed to improve social belonging or strengthen "growth mindsets" for socially relevant traits are thought to be most relevant during adolescence, when peer stress grows particularly salient (Paunesku et al., 2015). Thus, both interventions have targeted adolescents during academic transitions (e.g., entering high school or college), characterized by unstable friendships and uncertainty about social standing. Additionally, social belongingness interventions have been designed for members of potentially marginalized groups, such as African-American students at majority-Caucasian schools, who often experience low belongingness in their academic communities (Walton & Carr, 2012; Yeager, Walton, et al., 2016). Stereotype threat interventions are similarly tailored for students at highest risk for experiencing stereotype threat on a day-to-day basis, including racial/ethnic minority students and girls pursuing STEM careers (Shapiro, Williams, & Hambarchyan, 2013).

SSIs and Youth Mental Health Problems

In addition to boosting academic, motivational, and physical health outcomes, some SSIs may reduce and prevent youth mental health difficulties. In a meta-analysis of 50 randomized-controlled trials (Schleider & Weisz, 2017), we found that SSIs for youth psychological problems demonstrated a significant beneficial effect (mean g = 0.32), across various levels of youth problem severity and diagnostic status (Figure 1). The most common SSI delivery settings were primary care and emergency room settings, middle and high schools, and community centers, although several studies described lab-based efficacy trials. A substantial portion of SSIs were self-administered by youths via computers or written activities; significant effects emerged even for these self-administered interventions, which may hold particular potential to reduce costs, broaden accessibility, and maximize scalability. SSIs' overall effects are slightly smaller than those observed for multisession youth psychotherapy (Weisz et al., 2017), but their relative efficiency could magnify their benefits for youth psychological health on a broad scale.

Although these findings are promising, further investigation is needed to determine SSIs' promise and limitations. For instance, SSIs have been most effective in reducing youth anxiety and conduct problems, whereas SSIs targeting youth depression have shown nonsignificant overall effects (Schleider & Weisz, 2017). That said, intervention effects on youth depression are also especially weak even for traditional multisession therapies (Weisz et al., 2017). Moreover, only 6 of 50 trials in our SSI meta-analysis targeted depression, ensuring a poorly powered significance test. It remains possible that novel, theoretically precise SSIs could ameliorate youth depression. The effects of SSIs on co-occurring psychological problems are also unclear, as only 1 of the 50 trials in our meta-analysis explicitly targeted multiple youth problem types (Perkins, 2006). Additionally, SSIs' overall effects have waned over time, with mean effects dropping markedly (to g = 0.07) at 3-month follow-up and beyond. SSI trials have also relied largely on youth self-report outcome measures, and some have used relatively weak metrics to assess the clinical significance of SSIs' effects (e.g., outcomes in an RCT of a disordered eating SSI included "body satisfaction" and "dietary restraint" but not BMI changes or whether participants met DSM-5 criteria for eating disorders; Diedrichs et al., 2015). Further, two-thirds of the SSI studies used inactive comparison conditions (no-treatment or waitlist controls; Schleider & Weisz, 2017). More rigorous, longer-term trials of SSIs targeting depression and associated problems are key next-steps.

It is notable that SSIs in our meta-analysis with highly specific intervention targets (i.e., mechanism-targeted programs addressing well-defined beliefs or behaviors) appeared to be more effective than those without specific targets, consistent with SSI research from other psychology subfields, education, and public health. For instance, one of the best-studied mental health SSIs is One-Session Treatment for Specific Phobia (OST; Davis, Ollendick, & Öst, 2012). OST is built on a single treatment component, widely viewed as an "active ingredient" in evidence-based anxiety treatments (Chorpita & Daleiden, 2009): graded exposure. Although OST sometimes incorporates other elements of behavioral therapy (e.g., cognitive restructuring, psychoeducation), these are included only to support OST's intensive, therapist-led exposures, designed to help clients habituate to feared stimuli by reducing avoidance. Research on OST strongly suggests the potency of targeting maladaptive avoidance—specifically via exposure—in treating specific phobias (for a review of OST RCTs, see Ollendick & Davis, 2013).

Other efficacious, mechanism-targeted SSIs for youth mental health problems are deliverable without clinician involvement, and in nontraditional settings. Thirty-minute computer-based interventions teaching growth mindsets of personality have prevented depressive symptoms (Miu & Yeager, 2015) and improved coping with academic setbacks (Yeager et al., 2016) in

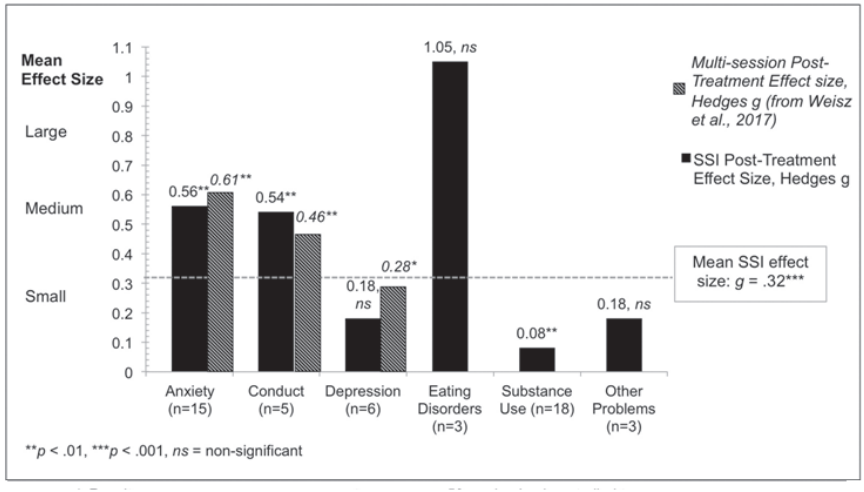

Figure 1. Results of Schleider & Weisz (2017) meta-analysis of 50 randomized controlled trails of single-session interventions (SSIs) for youth mental health problems, as compared with results from Weisz et al. (2017) meta-analysis of 447 randomized controlled trials of treatments youth pschological therapies.

high school freshmen; they have also strengthened perceived control, physiological stress recovery, and internalizing problems in high-symptom early adolescents (Schleider & Weisz, 2016; Schleider & Weisz, in press). As described in a previous section, growth mindset interventions target "keystone beliefs" thought to be highly potent, and relevant to adaptive stress-coping, for adolescents undergoing socially challenging transitions (i.e., starting middle or high school).

The promise of mechanism-targeted SSIs fits with emerging approaches to psychotherapy intervention design. The National Institute of Mental Health's current Strategic Plan for Research highlights the need for mechanism-targeted, developmentally sensitive approaches to building psychosocial interventions (NIMH, 2016). Within their "Experimental Therapeutics" approach, the first step to evaluating a novel treatment is testing its ability to shift theoretically promising targets (i.e., change mechanisms) thought to underlie psychopathology for a specific population. The second step is assessing whether changes in these targets produce reductions in psychopathology. Moving forward, research on targeted SSIs from social and educational psychology may help guide clinical scientists pursuing this two-step strategy, providing both content and a method that is especially well-suited to experimental therapeutics.

Scaling up SSIs? Future Directions for Dissemination Scientists

SSIs have shown initial promise in preventing and reducing youth mental health problems. However, many questions remain regarding strengths and limits of SSIs' efficacy, their readiness for implementation and dissemination, and their fit within existing care systems. Answers to these questions are necessary steps in gauging SSIs' capacity to increase service accessibility; improve the cost-effectiveness of the mental health-care delivery system; and help lessen the individual and societal burden of youth mental illness.

Are SSIs Acceptable?

First, the acceptability of SSIs for mental health problems is poorly understood. Intervention acceptability refers to judgments by laypersons, youths, families, and other stakeholders of whether the intervention is appropriate, satisfactory, and reasonable for the clinical problem at hand (Kazdin, 2013). Acceptability shapes clients' likelihood of seeking out a given intervention, viewing the intervention as potentially helpful, and adhering to the intervention's activities and recommendations once they pursue it (Kazdin, Whitley, & Marciano, 2006). Acceptability also influences clinicians' likelihood of recommending a given intervention, and (when applicable) implementing it with fidelity (Allinder & Oats, 1997). Thus, high acceptability of SSIs, both to providers and clients, is necessary for optimizing their benefits. It is plausible that youths and families would view SSIs as highly acceptable, due to their relative brevity and (potentially) lower cost. Alternatively, clients and clinicians may doubt SSIs' ability to effect lasting change, or may actively prefer and expect treatments that offer ongoing support, leading to low SSI uptake. SSI acceptability might also differ by intervention delivery context. Primary-care providers and school administrators may be more likely to embrace SSIs, which offer unique avenues for integrating mental health supports into overburdened, limited-resource systems (e.g., primary care clinics, schools). Mental health professionals, in contrast, may view SSIs as constraining or incompatible with services they are trained to provide. Examining whether, and by whom, SSIs are viewed as acceptable is a key next-step for implementation efforts.

Diminishing Returns on SSIs for Severe Psychopathology?

Many questions remain about the limits of SSIs' effectiveness. For instance, it is plausible that SSIs are effective up to a certain level of youth symptom severity, beyond which there could be diminishing returns. No evidence emerged for this sort of a "drop-off" effect in our meta-analysis: overall SSI effects did not differ by baseline youth symptom severity, or for prevention versus treatment programs. However, it remains possible that the severity level up to which SSIs are helpful may differ by problem domain. For instance, SSIs for anxiety may help reduce both mild and moderate levels of symptoms, whereas SSIs for substance use may be effective for prevention purposes alone. As the SSI literature grows, it will grow more possible to test interactions between problem domain and severity level in predicting program effectiveness, and to identify the circumstances under which SSIs can and cannot yield lasting change.

Can SSIs Cause Harm?

There is also the possibility that some SSIs might inadvertently cause harm. Indeed, iatrogenic effects of brief interventions have been documented in the past. One well-known example is "critical incident stress debriefing" (CISD): a group-based SSI designed to prevent symptoms of PTSD in adults exposed to extreme stressors (Lohr, Hooke, Gist, & Tolin, 2003). CISD is a group-based therapy administered within 72 hours of a trauma. CISD-trained therapists ask participants to "process" negative reactions to the trauma, discouraging discontinuation after the session begins; they also detail the PTSD symptoms that participants are likely to experience. RCTs have found CISD to increase PTSD symptoms in the long-term, perhaps by impeding natural recovery processes (McNally, Bryant, & Ehlers, 2003). Separately, "Scared Straight" programs, which involve organized visits to prisons by youths at risk for criminal behavior, aim to prevent delinquency by exposing youths the realities of life in prison. A meta-analysis of randomized and quasi-experimental studies of Scared Straight programs demonstrated that these interventions increased youth delinquency by up to 70% (Petrosino, Turpin-Petrosino, & Buehler, 2003). Most Scared Straight programs spanned more than one session; nonetheless, they illustrate the capacity of brief, well-intentioned programs to harm vulnerable participants. Moving forward, careful piloting, efficacy testing, and adherence to a developmentally tailored, mechanism-targeted design model might help prevent the dissemination of inadvertently harmful SSIs.

Broadening SSI Access Without Compromising Safety?

Another set of questions involves the safe, ethical delivery of SSIs to youths with mental health needs. Inherently, SSIs involve brief or no contact with a mental health professional. This feature bypasses or minimizes risk-monitoring procedures typical of weekly, clinic-based psychotherapy. Particularly in the context of SSIs for clinically significant psychopathology (as opposed to preventive SSIs for healthy or low-risk individuals), it is crucial to ascertain the degree of professional involvement needed to ensure client safety—particularly when risks include suicidal thoughts and actions, other life-threatening conditions such as anorexia, or harm to others. Because many SSIs are deliverable by professionals without formal mental health

care training (e.g., primary care physicians; teachers; nurses) or by means that involve no therapist at all (e.g., computer-based SSIs), formal evaluation of adverse outcomes following SSI administration—specifically as a function of professional involvement—is a necessary precursor to broad-scale SSI implementation and dissemination.

Where Do SSIs Fit Into Broader Systems of Care?

Given their brevity, it may be possible to integrate evidence-supported SSIs into a wide variety of service systems, either as stand-alone or adjunctive supports. Primary care clinics may be especially high-yield settings for youth SSI implementation. Pediatricians are often the first to identify mental health difficulties in their child and adolescent patients, yet they often feel ill-equipped to provide psychological services or referrals (Brown, Green, Desai, Weitzman, & Rosenthal, 2014). Offering SSIs to youths for whom pediatricians have identified mental health needs, especially SSIs deliverable on-site at the pediatric clinics, may be a feasible approach to connecting youths with care. Implementing SSIs in schools might be another promising strategy. While few children with mental health needs receive services, 80% of those who access treatment do so through their schools (Merikangas et al., 2010). However, there is a significant shortage of school-based mental health providers across the country, with counseling staff in short supply and the student-to-school psychologist ratio exceeding 1,383:1 (Castillo, Curtis, & Tan, 2014). With school clinician caseloads nearing the thousands, SSIs may help schools serve a greater proportion of students in need—particularly self-administered SSIs, which can be accessed by entire student bodies at once. SSIs may also fit nicely within the "Response to Intervention" (RTI) approach, increasingly adopted by United States public schools (Barnes & Harlacher, 2008). RTI is a multitiered service delivery system in which all students are provided an appropriate level of evidence-based services based on individual needs. SSIs might represent an early step in school-based triage: a lower-tier service for students experiencing or at risk of mental health problems. Those who do not respond to SSIs, or who are identified as needing ongoing, intensive supports, might be referred for alternative school or outpatient services.

An important pragmatic question is whether, and if so, how, SSIs delivered in traditional health care settings—or outside of them—may be covered by insurance. While this question warrants attention, it is important to note that health insurance coverage alone has not eliminated the need-to-access gap: among youths with mental health needs, 79% with private health insurance and 73% with public health insurance never receive treatment (Freedenthal, 2007). That said, reimbursability of SSI services would almost certainly increase access for many individuals. In the meantime, the efficiency and low cost of SSIs could make them available to many youths completely outside the bounds of existing insurance, managed care, and health care systems—for example, with access provided through schools, community programs, or religious centers.

Conclusion

The United States mental health care system will require significant "rebooting" to reduce the overall burden of mental illness (Kazdin & Blase, 2011). As a complement to multisession psychosocial treatments, SSIs may offer a promising path toward improving the accessibility and cost-effectiveness of mental health sup-

What disciplines have you drawn from to inform your work in D&I?

Dr. Clark: IAPT is a multidisciplinary initiative. The therapists that work in IAPT services have a range of professional backgrounds such as clinical psychology, social work, and mental health nursing. In my view, drawing on a wide range of professionals has enhanced the program. First, it provides a wider pool of potential trainees. Second, it helps the initiative to focus exclusively on the key goal of delivering effective treatments without being distracted by any issues that are specific to a particular professional group. Of course, each professional group brings different skills to the table. It is important to cherish this richness and to ensure that the training courses are appropriate to people with a wide range of backgrounds.

Dr. Chorpita: Well, first I need to clarify: I have tried to inform my work in the service of improving system outcomes, of which D&I is just one strategy. I think we now live in an age where the central aim of our work is evolving from pure discovery (i.e., knowledge creation) to coordination of many existing evidence bases (i.e., knowledge synthesis) from many different literatures, which is exciting. There is already so much known that could help inform how to reduce mental health burden, for example, in the research on memory and human learning, human technology interface, business and administration, economics, administration, design, cultural anthropology, artificial intelligence, knowledge management, data mining, education, and statistics, just to name a few. I am often surprised how often other disciplines have already found answers to the same problems in other contexts, which could be useful to addressing our field's biggest challenges. And I confess it helps to have friends who aggressively read outside of the mental health literature—they push me out of my comfort zone, which is important. It's easy to get myopic.

Dr. Garland: I feel very fortunate to have worked closely with mentors, colleagues, and trainees from multiple disciplines and I know this has enriched my work (and my life!) significantly. I've worked closely with anthropologists, biostatisticians, counselors, epidemiologists, marital and family therapists, pediatricians, psychiatrists, psychologists from multiple specializations, social workers, and sociologists (note the alphabetical order to avoid any suggestion of preference!). Although I am a psychologist by training, I've never worked in a psychology department. It's hard for me to imagine how my career trajectory would have differed if I had worked more exclusively within just one discipline.

Dr. Hanson: Business, social psychology, industrial psychology and medicine ...

D&I Spotlight Interviews: **http://www.abct.org/docs/PastIssue/40n7sup.pdf**

ports. Evidence from social psychology, education, and public health has suggested that SSIs—especially mechanism-targeted programs—can improve achievement, social functioning, and physical health. SSIs may also be effective in treating and preventing youth mental health problems (Schleider & Weisz, 2017). We have posed several questions—all ripe for investigation by implementation and dissemination scientists—to guide SSI research moving forward. We note the need to identify and test specific mechanisms to target via mental health-focused SSIs; to assess the acceptability of SSIs among youths, families, practitioners, and stakeholders; to gauge the problem types and severity levels with which SSIs can be helpful; to evaluate the risks that SSIs may pose to clients; and to assess the feasibility of incorporating effective SSIs into existing support systems for youths, including primary care clinics and schools. Work in each of these domains is needed to gauge the full potential of SSIs as a force for youth mental health.

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Implementation of Telepsychology Services in a University Training Clinic: Process and Lessons Learned

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BEHAVIORAL HEALTH (i.e., mental health and substance use) disorders, which affect 1 in 4 individuals at any given time (Center for Behavioral Health Statistics and Quality, 2015), including 1 in 5 children (Centers for Disease Control and Prevention, 2013), are now the leading cause of disability in the United States (U.S. Burden of Disease Collaborators, 2013). A wide array of evidence-based treatments (EBTs) for behavioral health problems are now available, many of which are cognitive-behavioral in orientation (see Barlow, 2014; Chorpita et al., 2011; Society of Clinical Psychology, 2016), yet less than 20% of individuals with a diagnosable behavioral health condition receive care from a specialty provider (National Center for Health Statistics, 2012; Robinson & Reiter, 2016). Numerous barriers, such as inadequate numbers of providers (Bureau of Health Workforce, 2016; Substance Abuse and Mental Health Services Administration [SAMHSA], 2013) and obstacles to patient engagement including cost, transportation, and conflict with work schedules (Mojtabai et al., 2011; Owens et al., 2002; Robinson & Reiter, 2016), contribute to low rates of treatment by limiting the accessibility of behavioral health services; such barriers also have a disproportionate impact on traditionally underserved populations such as rural, racial and ethnic minority, and low-income individuals (Interian, Lewis-Fernández, & Dixon, 2013; McCord, Elliott, Brossart, & Castillo, 2012; Owens et al., 2002). Given all of these considerations, ongoing efforts to disseminate and implement cognitive-behavioral EBTs in traditional behavioral health settings must also attend to service accessibility if they are to maximize the public health impact of EBTs.

Strategies to improve accessibility of behavioral health services include delivery in novel settings, such as integrated behavioral health in primary care (see Robinson & Reiter, 2016; Talen & Valeras, 2013), but delivery of EBTs in specialty behavioral health services remains critical for many disorders (Comer & Barlow, 2014). Thankfully, rapid technological advances over the past decade—such as increases in computer and Internet use (U.S. Census Bureau, 2016), even in underserved populations (Anderson, 2015)—have provided new opportunities to improve the accessibility of traditional behavioral health services (Jones, 2014). Of particular promise for EBT delivery is telehealth, which involves remote delivery of health services via real-time audio- and video-conferencing (American Telemedicine Association, 2012) and includes telepsychology (i.e., delivery of psychological services in such a manner; American Psychological Association, 2013) and related behavioral health services (e.g., telepsychiatry, telemental health). We focus on telepsychology in the present article. Telepsychology has consistently been found to be an effective and patient-acceptable strategy to improve