Quest Therapeutic Camps' Program Found to Significantly Improve Social Skills and Decrease Problem Behaviors:

A Study Summary

Byron K. Smith, M.S.

Therapeutic camps are an under researched treatment modality. Both attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), and other behavior problems have been successfully treated via therapeutic camps, but replications of research results for these camps are rare. This most recent study of the Quest Therapeutic Model represents the second examination of it's efficacy. We found that the participants in Quest Camp significantly improved on measures of social responsiveness and parents' ratings of potential behavior problem areas, further demonstrating that therapeutic camps are a promising treatment modality.

Background

Both ADHD and ASD are associated with behavioral, social, and emotional challenges for the children with those disorders. One of the symptoms of the hyperactive subtype of ADHD is emotional lability or susceptibility to swift emotional change. ADHD is also associated with a variety of deficits related to emotional expression, and individuals with ADHD often show irritability, hostility, excitability, and general emotional hyperresponsiveness. ASD is a developmental disorder characterized by delayed speech typically followed by a lack of interest in social interaction in favor of engaging in repetitive behaviors. Finally, emotion dysregulation correlates significantly with the severity of core features of autism. While the root cause of these deficits and difficulties is different for each disorder, Quest's Therapeutic Model aims to address them.

Among children diagnosed with ADHD by their primary care physician 88% were prescribed methylphenidate, a stimulant. However, use of stimulants can cause side effects, including upset stomach, headaches, decreased appetite, insomnia, depressed mood, and increased tic behavior. Thus, parents may choose to seek alternatives for treatment. Fortunately, intensive behavioral treatments—a component of the Quest model—have been shown to be comparably effective in reducing symptoms in the long run.

There are a variety of treatments that are employed for children with ASD. Psychopharmacological treatments have been used to treat autism. Often these treatments target symptoms like aggression and inattention rather than core features of autism. However, intensive behavioral intervention improves the language development deficits that are symptomatic of autism. Applied behavior analysis (ABA) uses operant conditioning principles to increase desired and appropriate behaviors and to extinguish maladaptive behaviors associated with autism over the course of years. Reviews of the effectiveness of ABA and other treatments offer a variety of conclusions that suggest ABA is not yet an evidence-based best practice for the treatment of ASD. Therefore, it is necessary to continue exploring alternative therapeutic models like Quest Camp.

Intensive treatments in a summer camp are a new and relatively little-researched option for families seeking therapeutic intervention for children with psychopathology. Camps offer a variety of features that differentiate them from other treatments, including treatment in a group format. While little research has been done on group therapy's effectiveness for treating children with ADHD, group intervention allows children with behavioral problems to practice new skills in a genuine environment and to learn from one another. A group environment allows the participant to receive feedback from peers, as well as counselors or therapists. Furthermore, the consistent presence of peers who may model desired behavior provides another avenue by which participants can learn.

Camps also provide a more physically active environment for participants. Exercise therapy has been implemented with clinically significant success in patients with depression. In fact, it has been found that exercise had comparable gains to pharmacological treatment and gains persisted 6 months after treatment. Summer camps may incorporate some of the therapeutic advantages of regular exercise. In addition, a summer day camp provides many hours of intervention compressed into a relatively short timeframe.

Summer camps have successfully treated social interaction deficits associated with autism. In addition, an intensive summer treatment program was found to be very effective in treating children with ADHD. In fact, a study of the Bay Area Quest Camp location found that its participants improved in all areas reported on by counselors and parents (aggression, peer relations, family relations, impulsivity, hyperactivity, inattention, self-esteem, behavioral control, and athletic competency). With these early successes as our backdrop, we set out to examine where Quest Camp fits among these promising programs.

Methodology

Forty-seven campers participated in the study over the course of two summers. Packets containing the study's measures were sent to parents by mail or handed to them on the first day of camp. The packets contained 3 Measures. The Child Behavior Checklist, The Social Responsiveness Scale 2, and a questionnaire that asked parents to rate their child's impairment in areas like *attentiveness* and *cooperation*. In addition, hourly counselor ratings were examined to gauge counselor's interpretations of camper improvement. After camp was over, follow-up packets were mailed to participating families.

The Social Responsiveness Scale 2 (SRS-2) is a quantitative measure of interpersonal behavior, communication, and repetitive/stereotypic behavior characteristic of ASD. The SRS-2 has 38 four-point items, like "expressions on his or her face don't match what he or she is saying." Answers are on a scale from 1 (*not true*) to 4 (*almost always true*). The SRS-2 can be filled out by parents of children ages 4 to 18. The scores are summed for 5 subscales: Social Awareness, Social Cognition, Social Communication, Social Motivation, and Restricted Interests and Repetitive Behavior.

The Child Behavior Checklist (CBCL) is administered to parents or guardians of a child to assess behavioral and emotional problems. The CBCL has 118 items with these responses: 0 = not *true*, 1 = *somewhat or sometimes true*, and 2 = *very true or often true*. All 8 syndrome scales, such as "Anxious/depressed" and "Thought problems," were used. In 2001, DSM-oriented scales were identified to assess Affective, Attention Deficit/Hyperactivity, Anxiety, Somatic, Oppositional Defiant, and Conduct Problems.

Camp Procedure

Children were divided into groups based on age. A counselor, who participated in a two-day training on rating procedures and implementation of the therapeutic model, acted as primary counselor to the members of his or her group. Those counselors were responsible for rating all of their assigned campers each hour and reviewing those scores with the children and their parents at the end of the day. Counselors performed interventions with campers outside of their primary group. Finally, prior to camp's beginning, the camp director wrote 10 personalized behavioral goals for each child. Typical behavioral goals were "use words to express feelings," "be flexible," "use coping skills when sad, mad, or worried," "understand social cues," "hands to self/give others personal space," etc.

Behavioral Interventions

Campers were scored from 1 to 5 at the end of each hour by their primary counselor. These scores represented counselors' assessments of how well each child achieved personal goals and participated in the current activity. These scores were discussed each hour within each counselor's assigned group of campers, between activities. The counselors gave feedback on how to get higher scores in the next hour.

Social Interventions

The summer camp acted as an environment for campers to practice new social skills. Throughout camp, social skills like active listening and the importance of back-and-forth in a conversation were taught by counselors and lead staff therapists through games and lessons. Many campers were given personal goals around "starting conversations with peers" and "being willing to switch topics."

Emotional and Coping Skills Interventions

Camp also addressed the emotion regulation needs of its campers. Counselors were trained to help campers give words to feelings. For instance, a counselor might approach a child on the verge of a tantrum and ask that child to rate his or her anger from 1 = *totally calm* to 5 = *about to explode*. Children received bonus points for labeling their feelings.

Beyond labeling their emotions, children were taught three major emotion regulation skills: guided imagery, progressive relaxation, and deep breathing. These skills were taught and practiced in depth once a week, but counselors encouraged campers to use these skills throughout the course of camp. Finally, children whose parents reported they were using these coping skills at home earned more points toward their home goals.

Findings

Among CBCL subscales *Social Problems* and *Aggressive Behavior* significantly improved. For the SRS-2, improvements in scores on the *Social Awareness, Social Cognition,* and Social *Communication* subscales and its total score were significant. Finally, changes in scores on the parent questionnaire were significant.

The decrease in CBCL aggression corroborates past findings related to aggression in children with ADHD. Theories of ADHD tie both aggression and emotion regulation to deficits in behavior inhibition. Elements of Quest Camp, like goals related to impulse

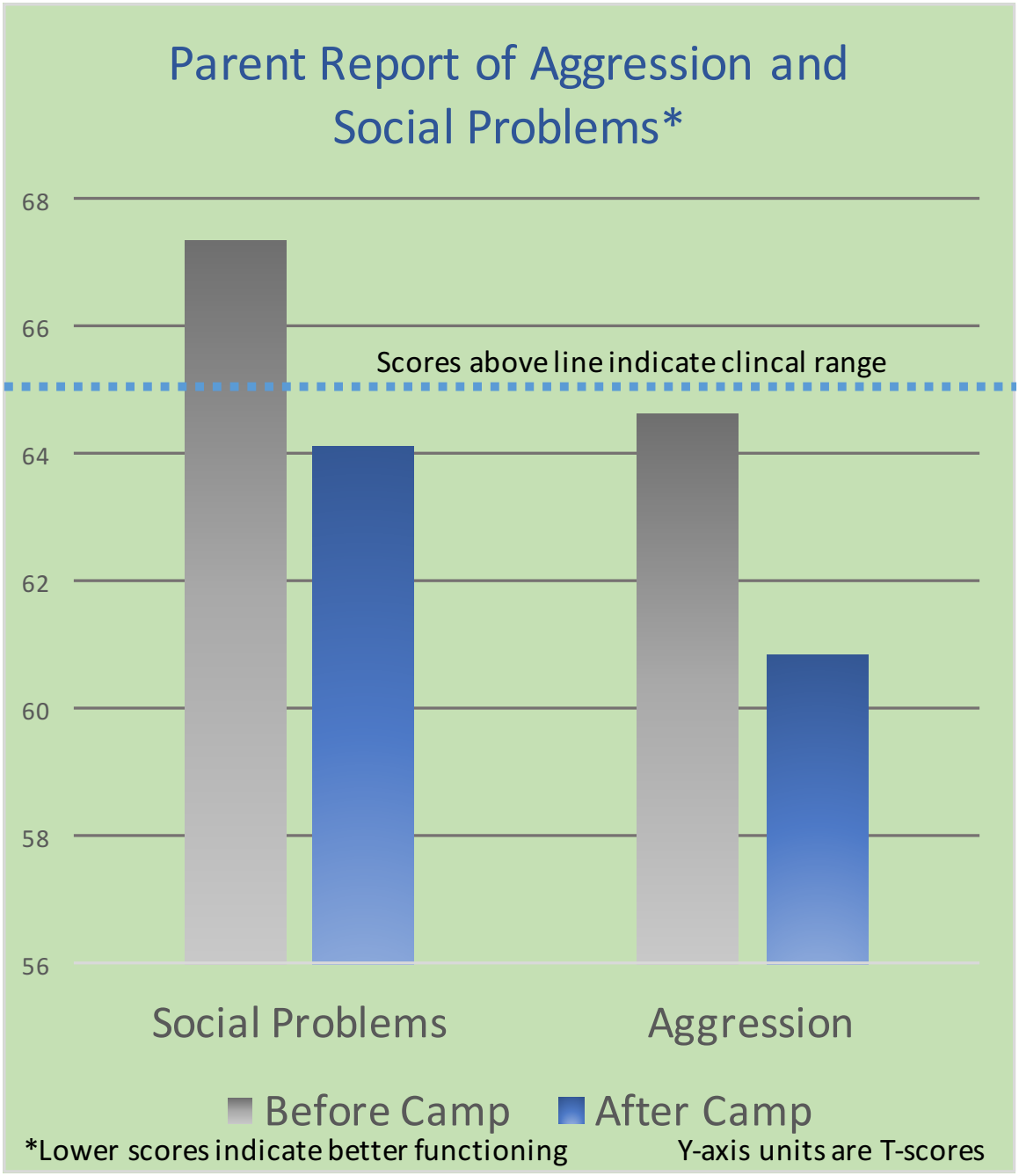
control, token-based reinforcement and teaching of critical thinking strategies, are designed to address deficits in behavioral inhibition. It is possible that these interventions are responsible for improved impulse control, resulting in decreased aggression. Another explanation for the changes in aggression could be related to Quest's emotion regulation interventions, like coping skills training and emotional labeling. Greater negative emotional expression has been observed in children with ADHD and comorbid aggression. Improved emotion regulation skills could obviate maladaptive coping strategies like aggression. In the camp setting, opportunities to use more appropriate coping skills like deep breathing or progressive relaxation are plentiful, and campers who use such skills are reinforced.

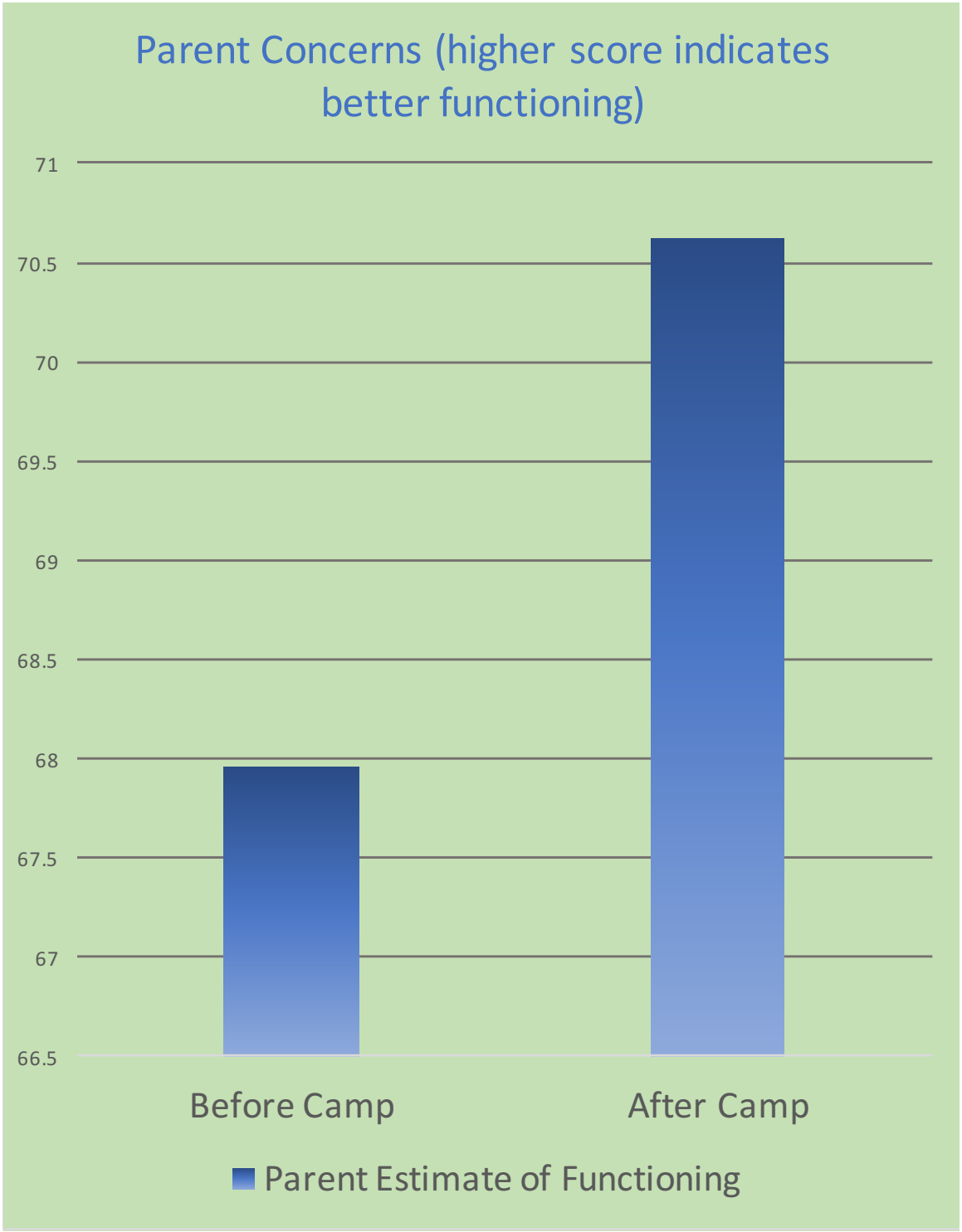
The *social problems* subscale of the CBCL and the *social awareness, social cognition* and *social communications* subscales of the SRS-2, as well the SRS-2 total score, improved significantly. These improvements suggest that Quest Camp may shrink the social deficits that are observed in children with ADHD and are endemic to children with autism. The specific subscales that showed significant improvement coincide with the emphases of Quest Camp's social interventions. The *social awareness* subscale measures a child's ability to observe social cues, the *social cognition* subscale is a representation of a child's ability to interpret social cues, and the *social communication* subscale measures a child's ability to communicate socially. All of these concepts are routinely targeted by Quest Camp interventions through work with peers, modeling and reinforcement by counselors, and the cultivation of an environment that is conducive to practicing new social skills.

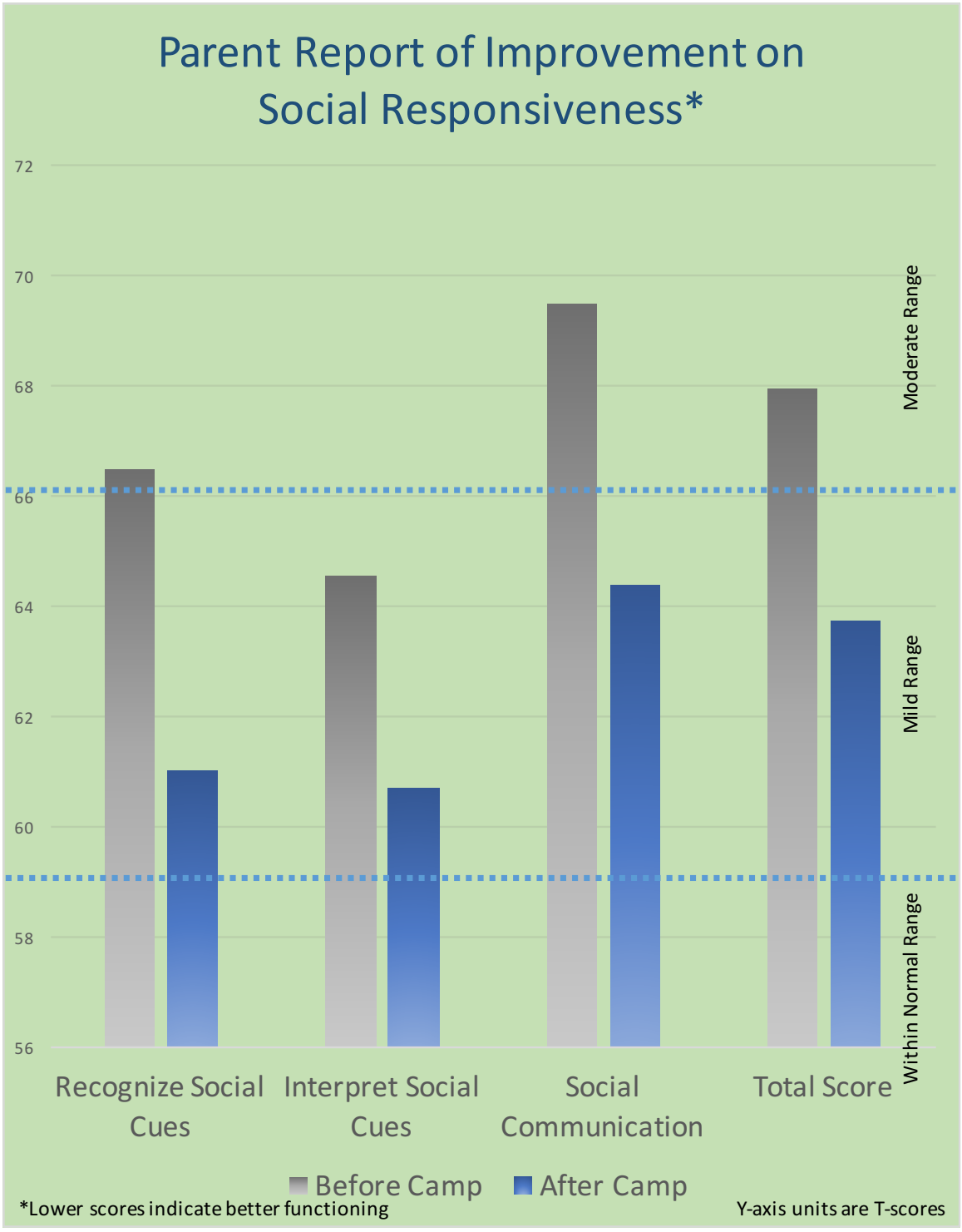
Scores on the 15-item parent measure also improved significantly. This measure represented an aggregate of behavioral concerns parents might have about their child. Though limited, this change suggests that, overall, parents observed an improvement in children's behavior. This speaks to the generalization of the camp's treatments to the home setting.

Our study's improvements in social functioning and reduction of aggressive behavior demonstrated that the therapeutic camp treatment modality can bring about significant change over the course of a few weeks. In particular, it further substantiates the findings regarding The Quest Therapeutic Model and specifically shows it as a promising treatment modality for ADHD, ASD, and other problem behaviors.

*** To see a copy of Byron K. Smith's complete thesis, which provides more details of, all findings go to www.questcampsofsocal.com/support*


Parent Report of Aggression and Social Problems*
68
66
64
62
60
58
56
Scores above line indicate clincal range
Social Problems
Aggression
Before Camp
After Camp
*Lower scores indicate better functioning
Y-axis units are T-scores


Parent Concerns (higher score indicates better functioning)
71
70.5
70
69.5
69
68.5
68
67.5
67
66.5
Before Camp
After Camp
Parent Estimate of Functioning



** Parent Estimate of Functioning includes ratings of attentiveness, concentration, conversational skills, cooperation, family relationships, fearfulness, flexibility, following* directions*, frustration tolerance, general anxiety, hyperactivity, impulsivity, organizational skills, peer relationships, self-esteem, tantrums.*