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AN INVESTIGATION OF CLINICALLY SIGNIFICANT CHANGE AMONG CHILD  
AND ADOLESCENT CLIENTS OF A GRADUATE-LEVEL TRAINING CLINIC

by

Kerry K. Prout

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

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Logan, Utah

2016

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## ABSTRACT

An Investigation of Clinically Significant Change Among Child and Adolescent  
Clients of a Graduate-Level Training Clinic

by

Kerry K. Prout, Doctor of Philosophy

Utah State University, 2016

Major Professor: M. Scott DeBerard, Ph.D.  
Program: Psychology

The study investigated client outcome data for child and adolescent clients seen for outpatient psychotherapy services by graduate-level student therapists in a psychology training clinic in order to better understand change trajectories occurring in such settings and to examine whether services being offered are meaningful for youth clients. One hundred sixty-nine clients seen by graduate-level therapists at a training clinic setting were evaluated at each session using the Youth-Outcome Questionnaire 2.01 in order to identify the percentage of clients who met criteria for clinically significant change, reliable improvement, no change, or deterioration in outcomes across the course of treatment. Approximately 24% of clients seen for treatment met criteria for clinically significant change at the termination of treatment and 34% reliably improved. Survival analyses indicated the median time required to attain clinically significant change was 18 sessions, with 10 sessions required for reliable improvement. Current findings are

compared to earlier investigations in youth psychotherapy outcomes and training clinic outcomes. The implications of these findings for education and training, client care and clinical services, and policy are discussed.

(116 pages)

## PUBLIC ABSTRACT

### An Investigation of Clinically Significant Change Among Child and Adolescent Clients of a Graduate-Level Training Clinic

Kerry K. Prout

The study examined parent-reported child and adolescent outcomes for youth being seen for psychotherapy services on a measure of symptoms of distress (Youth-Outcome Questionnaire 2.01). All clients were seen for psychotherapy services by graduate-level student therapists who were currently in training at a psychology training clinic. Parents of clients completed a questionnaire to assess symptoms of distress at each psychotherapy visit and the study sought to define the trajectory of change that clients experience throughout treatment. Specifically, the study aimed to determine to what degree change in outcomes was statistically significant and meaningful for clients and on average, how many sessions were needed for the majority of clients to demonstrate a significant change in score. One hundred sixty-nine youth clients were included. Approximately 24% of clients seen for treatment demonstrated clinically significant change, or a change in outcomes that was statistically significant and meaningful for the client. The average time required for 50% of clients to demonstrate clinically significant change was 18 sessions. The current findings are discussed in relation to other studies conducted in training settings and with youth psychotherapy outcomes. The implications of these findings for student therapist training, service delivery, and clinic procedure are discussed.

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Kerry K. Prout

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## **CHAPTER I**

### **INTRODUCTION**

Approximately 13% of youth ages 8-15 met criteria for a psychological disorder within the previous year. The lifetime prevalence of psychological disorders in youth ages 13-18 is 46.3%. Furthermore, it is estimated that 21.4% of the youth in this age group meets the criteria for “severe” disorders that result in severe impairment in daily functioning (National Institutes of Health, 2014). Given the high prevalence rate of psychological disorders in children and adolescents, the need for accessible and effective psychological services is evident. One psychological service option available to children and adolescents in the U.S. is a university psychology training clinic.

A university psychology training clinic (PTC) is often associated with a graduate training program in professional psychology at a regionally accredited university. Psychology training clinics provide outpatient psychological services to individuals in the community, including adults and youth, as well as operate as a training setting for student therapists. Most often PTCs are staffed by graduate therapists-in-training who provide outpatient psychotherapy services under the supervision of a licensed psychologist. The Association of Psychology Training Clinics (APTC) is the national organization for directors of psychology training clinics. Approximately 208 psychology training clinics operate in the U.S. (Association for Psychology Training Clinics, 2015). According to a survey conducted by the APTC, 28.7% of clients seen at PTCs included the general child population (Heffer, Cellucci, Lassiter, Pantesco, & Vollmer, 2006). In addition, 90.9% of child and adolescent populations seen at psychology training clinics met criteria for a

psychological disorder (Heffer, Cellucci, Lassiter, Pantesco, & Vollmer, 2006).

Psychology training clinics offer affordable mental health services and at times may offer services to communities with limited access to other psychological services (e.g., in rural areas; Heffer et al., 2006).

Investigations of treatment outcomes for clients and research on the trajectories of change across treatment commonly examine statistically significant and reliable change in outcomes across treatment (Karpenko, Owens, Evangelista, & Dodds, 2009). The term, clinically significant change (CS change), refers to a measure of change across treatment that is observable as well as meaningful to the client. Assessment of clinical change typically involves a pre-post treatment psychological measurement using a reliable and valid outcome scale. One operational definition of CS change requires two necessary components: (1) that a client's initial assessment score on a scale falls in the dysfunctional range and improves across the course of treatment to a functional range, and (2) that the client's change in score meets or exceeds the reliable change index (Jacobson, Follete, & Revenstorf, 1984; Jacobson & Truax, 1991). Reliable change is a measure of statistical significance for change in scores from pre to post-intervention which accounts for assessment standard error. Therefore, when a client's score improves beyond the amount of change expected due to chance or measurement error, then a reliable improvement (RI) in score is said to occur. Research examining psychotherapy treatment outcomes, including the extent to which CS change or RI occurs as well as the dose-response relationship, for children and adolescent populations seen at psychology training clinics would provide information useful to understanding the outcomes of child

and adolescent clients seen in such settings compared to nontraining settings as well as informing training objectives (e.g., supervision, treatment planning).

Very few studies have been conducted on client change in PTCs, and to date no research has been done in such settings specific to child and adolescent treatment outcomes. However, several studies have examined adult outcomes across psychotherapy treatment specifically at PTCs, including identification of the median effective dose and determining the proportion of clients who achieved CS change or RI. Most recently, Callahan et al. (2014), investigated adult treatment outcomes at six PTCs (all members of the APTC) and reported that 30.6% of clients demonstrated CS change. This finding is similar to previous research, including a study by K.K. Prout (2013), which examined adult outcomes across treatment at a PTC and found that 28% of clients seen met criteria for CS change and that the median time required to meet criteria for CS change was approximately six sessions. Anderson and Lambert (2001) investigated CS change in adult clients of a university training clinic. It was documented that 38% of the sample met criteria for CS change before ending treatment and that 50% of clients met criteria for CS change after 11 sessions. A previous study by Kadera, Lambert, and Andrews (1996) examined adult outcomes across treatment at a PTC and reported that 33% of the sample met criteria for CS change and that eight sessions were required for 43% of clients to meet CS change criteria.

Overall, research on adult treatment outcomes is largely commensurate with adult treatment outcomes in nontraining settings in terms of percentage of clients who attain CS change or RI (Shepherd et al., 2005). However, adult treatment outcome findings are

somewhat mixed when examining number of sessions needed for 50% of the sample to reach CS change criteria, with research findings reporting fewer sessions needed for clients seen in PTCs compared to nontraining contexts (Anderson & Lambert, 2001; Kopta, Howard, Lowry, & Beutler, 1994; Lambert, Hansen, & Finch, 2001; K. K. Prout, 2013). This information is valuable to understanding not only treatment outcomes specific to PTCs but also to understand client outcomes in this setting compared to other settings. Research examining youth outcomes specifically at PTCs would contribute to a greater understanding of the trajectories of change for children and adolescents at such training clinics as well as allow comparisons of youth outcomes across settings.

While the research on child and adolescent treatment outcomes in PTCs is absent, a number of studies have examined youth outcomes across a myriad of nontraining settings with varied findings. Asay, Lambert, Gregersen, and Goates (2002) examined adult and youth outcomes across treatment at a private practice clinic. Results were that 50% of youth attained CS change in 14 treatment sessions. Another study by Ash and Weis (2009) evaluated RI in symptoms across youth seen at public outpatient psychotherapy programs. Findings included 55% of youth demonstrated reliable symptom reduction 1 year after treatment intake and one third of the sample was said to display CS change. Findings from these studies suggest positive effects for child and adolescent treatment outcomes in nontraining settings; however, some research has reported no positive effects. For example, a study by Bickman, Andrade, and Lambert (2002) investigated the dose-response relationship in a community clinic serving child and adolescents with mental health needs. It was documented that no statistically

significant dose response was observed. Also, Warren, Nelson, and Burlingame (2009) examined treatment outcomes for youth seen at an outpatient community mental health system and reported that over half of the children and adolescents in the study sample did not achieve a positive outcome in treatment and that 21% had significantly higher symptoms at termination of treatment than at intake. Additionally, it was documented that 30% did not achieve RI across the course of treatment.

Overall, findings on the median effective dose and percentage of clients meeting criteria for CS change or RI varied greatly across studies, with some studies reporting an identifiable median effective dose and beneficial outcomes for the majority of clients (Asay et al., 2002; Ash & Weis, 2009), and others reporting no median effective dose as well as some adverse outcomes (Bickman et al., 2002; Warren et al., 2009).

In addition to limited research on CS change rates for children and adolescent in PTCs, no studies have evaluated possible factors associated with change in this population in PTCs (e.g., contextual, client, or therapist-specific factors). Working to better understand factors related to change outcomes for youth clients may help to optimize treatment outcomes for those clients. While no published studies have investigated factors associated with youth CS change or RI in PTCs, a number of studies have investigated various factors related to CS change or RI in child and adolescent treatment outcomes in nontraining settings. For example, Ash and Weis (2009) found that outcomes for clients ages 5-17 years seen in a community clinic were significantly related to client age and gender, such that adolescents were more likely to demonstrate CS change and RI than younger children and that girls were more likely than boys to



improve. Also, Kolko, Cheng, Campo, and Kelleher (2011) examined predictors of clinical outcomes in a randomized control trial for pediatric behavioral problems in primary care setting. Findings showed that the severity of the child's depression and anxiety as well as level of family conflict were significantly associated with improvement across treatment. Gordon, Antshel, and Lewandowski (2012) examined predictors of treatment outcomes in a child and adolescent psychiatry clinic and found a number of parent variables (marital status, maternal anxiety, and ethnicity) were predictors of youth improvement across treatment. Also, youth deterioration was associated with child status variables (e.g., extent of psychiatric comorbidity, prior trial of psychotropic medications).

While these studies found a significant association between various contextual, client, and therapist factors and youth treatment outcomes, other studies in nontraining settings have reported no significant or mixed findings. For example, Warren et al. (2009) examined demographic variables in order to identify risk for treatment failure in youth age 4-17 seen at a community clinic. After controlling for the effects of age, no variables were significantly related to treatment failure. Also, Nilson, Eisemann, and Kvernmo (2013) conducted a literature review to examine predictors of treatment outcomes in children with anxiety and depression. Findings showed no significant associations between client gender or age and treatment outcome. Similarly, findings for studies with children with anxiety identified no factors predictive of outcomes. However, studies of youth with depression suggest that symptom severity at treatment start and comorbid anxiety may impact treatment outcomes.

Overall, research in this area is conflicting and has largely focused on factors

relative to CS change in youth seen for outpatient psychotherapy at nontraining settings. More research is needed to identify possible client, therapist, or contextual factors related to youth change in treatment outcomes in a PTC. This would provide information on whether research in nontraining settings is generalizable to training environments, including PTCs, as well as inform training in PTCs.

Given the prevalence of psychological disorders among children and adolescents in the U.S. and the accessible psychotherapy services provided by PTCs to address child and adolescent populations, a thorough investigation of psychotherapy outcomes, including the dose-response relationship and rate of CS change, across treatment at a PTC is imperative. Additionally, investigating factors associated with child and adolescent treatment outcomes is necessary to identify variables that might influence treatment outcomes.

The purpose of the current study was three-fold: (1) determine to what degree child and adolescent clients at a PTC meet criteria for CS change, RI, no change, and deterioration at the termination of therapy; (2) determine the number of sessions for 50% of child and adolescent clients to meet criteria for CS change; and (3) determine factors that are associated with CS change, RI, no change, and deterioration in a university training clinic.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

The current review begins with a discussion of mental health concerns among youth populations and provides an overview of psychology training clinics as a community service option. Then, the review continues to include an understanding of clinically significant change and the dose-response relationship in outcome-focused research. Various meta-analyses of youth psychotherapy outcomes will be reviewed as well as adult and youth outcomes specific to psychology training clinics and nontraining settings. The literature review ends with a discussion of various contextual factors identified as associated with psychotherapy outcomes and the empirical questions of the current study.

#### **Scope and Magnitude of Youth Mental Health Concerns**

The occurrence of psychological disorders and mental health concerns in children and adolescents in the U.S. is substantial. It is estimated that approximately four million children and adolescents in the U.S. meet criteria for a psychological disorder, which results in significant functional impairment for youth in home, peer, and school settings. (National Alliance on Mental Illness, 2014). Additionally, half of all lifetime cases of psychological disorders have an onset by age 14 years (National Alliance on Mental Illness, 2014). Furthermore, the lifetime prevalence of psychological conditions is about 46.3% for youth age 13-18 years, with 21.4% of youth this age meeting criterion for psychological disorders that will lead to severe impairment in their daily life (National

Institutes of Health, 2014). In a given year, it is estimated that only 20% of children with psychological disorders are identified and receive psychological services (National Alliance on Mental Illness, 2014). Research from the Center for Disease Control and Prevention reported that for younger children, ages 8-15 years, approximately 13% met criteria for a psychological disorder within the previous year (National Institutes of Health, 2014). Furthermore, the most common disorders were attention-deficit/hyperactivity disorder (8.5%), mood disorders (3.7%) and major depressive disorder (2.7%). Furthermore, suicide has been identified as the third leading cause of death in youth between the ages of 15-24 (National Alliance on Mental Illness, 2014). The functional impairment psychological disorders can have on youth is significant. For example, according to research presented by the National Alliance on Mental Illness, approximately 50% of students age 14 or older who are living with a psychological disorder drop out of high school. In addition, a high percentage of youth in juvenile detention meet criteria for at least one mental illness (65% of boys and 75% of girls). Given the high incidence rates of psychological disorders in children and adolescents and the functional impairment such disorders can have on youth's lives, the availability of psychological services to treat mental health concerns in youth populations is essential. A university PTC is one such treatment service option that is available to children and adolescents.

### **Psychology Training Clinics**

A university PTC has two primary aims: (1) to serve as a training ground for

graduate-level student therapists as part of a scientist-practitioner framework, and (2) to provide outpatient psychological services to individuals in the community (Mueller, 2010). Because of the emphasis on student training, often PTCs are associated with graduate training programs in professional psychology at regionally accredited universities. The APTC website, a national organization for directors of PTCs, identifies approximately 208 PTCs in the U.S. (Association for Psychology Training Clinics [APTC], 2015). In addition, the APTC has examined the services and procedures of various PTCs through distribution of a survey to all identified PTCs. Survey data found that 28.7% of clients served by PTCs were children (Heffer et al., 2006). Furthermore, 90.9% of child and adolescent populations served in PTCs settings met criteria for a psychological disorder (Heffer et al., 2006). It is clear that PTCs provide necessary mental health services to individuals in the community, including children and adolescents (Heffer et al., 2006). Therefore, it is essential to investigate whether the services provided at university PTCs result in positive outcomes for clients. Despite the need to understand the impact of services on clients at PTCs, there has been limited research to date on treatment outcomes in university training clinic settings, with no studies examining outcomes for youth client populations specifically.

### **Clinically Significant Change**

In order to fully understand treatment outcomes for clients in outpatient psychotherapy it is necessary to obtain client perspective on change across treatment in the hopes of determining whether services received in training settings were helpful,

neutral, or harmful. In addition, it is important to obtain client feedback on change across treatment in PTCs in order to determine whether change in outcomes observed is commensurate with clients seen for outpatient psychotherapy at other nontraining settings. Research on treatment outcomes in psychotherapy has sought to determine the extent to which change is meaningful for clients as well as statistically significant and reliable (Karpenko et al., 2009). Clinically significant change (CS change) refers to a client's change in outcomes across psychotherapy that is both recognizable to the client and statistically significant. A myriad of methods exist for evaluating clinically meaningful change in outcomes, with clinical significance taking a narrower view of meaningful change than various other approaches (e.g., social validity; Ogles, Lunnen, & Bonesteel, 2001). A commonly employed operational definition of CS change was put forth by Jacobson and Truax (1991). In this approach, CS change is said to occur when a client's assessment score at intake is in the dysfunctional range (above the clinical cutoff) and when the client's score has improved to meet the threshold for reliable change as well as falls in the functional range (below the clinical cutoff; Jacobson et al., 1984; Jacobson & Truax, 1991). This requires that a client demonstrate a reliable improvement in scores as well as assessment scores that begin in the clinically significant range and end in the typical range, indicating at the termination of treatment the client is indistinguishable from an asymptomatic individual.

A key component of clinical significance is demonstration of reliable change in the improved direction. Reliable change is a measure of statistical significance for change in scores before and after an intervention, which accounts for assessment of standard

error. When a client's scores have improved past the point that would be anticipated due to measurement error or chance, then a reliable change in scores is said to have occurred. Reliable change occurs when the reliable change index has been met or exceeded on a certain measure (Jacobson & Truax, 1991). When a client demonstrates a reliable change in scores in the improved direction but does not begin treatment in the dysfunctional range of scores and end treatment in the functional range then reliable improvement (RI) is said to occur. An investigation of youth treatment outcomes at PTCs seeks to determine the extent to which CS change and RI occurs for clients in order to better understand the consequences of treatment and whether clients demonstrate beneficial outcomes. Also, information on the occurrence of CS change and RI could serve to advise therapist training by informing clinical treatment planning and supervision practices.

### **Dose-Response Relationship**

Research on change in treatment outcomes often seeks to specify the dose-response relationship relative to clients' time in psychotherapy. The dose-response relationship is a measure of the relationship between length of treatment and client benefit, or essentially the correlation between the amount of psychotherapy (dose) and the outcome (response; Howard, Kopta, Krause, & Orlinsky, 1986). The median effective dose refers to the number of treatment sessions required for 50% of clients to attain measurable improvement. Howard et al.'s landmark study of the dose-effect relationship evaluated treatment outcomes of over 2,400 clients from 15 distinct data sets spanning 30

years of accumulated data. Overall, findings were that 50% of clients were reliably improved after eight treatment sessions and that 75% were improved after completion of 26 sessions.

More recently, Hansen, Lambert, and Forman (2002) examined the accumulated research in regards to the dose-response relationship for outpatient psychotherapy. Data from various clinical trials were included in the review. They reported that between 57% and 67% of clients seen for clinical trials improved in about 12.7 sessions; however, upon investigating naturalistic data, they found that the average number of sessions for a given client is less than five. Therefore, the authors concluded that psychotherapy clients do not get enough exposure to psychotherapy to demonstrate treatment outcomes seen in controlled trials.

Given the utility of examining the dose-response relationship and the finding that research from clinical trials may differ significantly from real-world psychotherapy outcomes, further research on change across treatment specific to PTCs is warranted. Ultimately, understanding youth treatment outcomes has significant implications for multiple stakeholders in children's lives. In addition to the welfare of the youth client who presents to treatment, all children and adolescents who engage in psychotherapy services live in a broader context of families, schools, and communities, all of which are stakeholders in the child or adolescent benefiting from treatment (Weisz, 2004). Improvement in youth client behavior could be reflected in a number of ways that impacts stakeholders, such as whether the child demonstrates less impairment in functioning or less distress, reduced financial costs of the client's family, or less



disruptive behavior in academic classrooms as the result of treatment. Given the lifetime prevalence of a psychological disorder for children and adolescents, the differences in treatment outcomes across practical clinical and research-based settings, and the treatment avenues available to children and families, including PTCs that see a broad array of youth client presentations, further investigation into general youth child outcomes in these settings is imperative. First, a review of the literature on broad-based youth psychotherapy outcomes is needed.

### **Meta-Analyses Examining Youth Psychotherapy Outcomes**

There is a long history of meta-analyses examining youth and psychotherapy outcomes. A recent review of these various meta-analyses investigating psychotherapy outcome research for youth populations was conducted by Zirkelback and Reese (2010). For the purposes of the current investigation, research on broad-based child and adolescent psychotherapy outcomes will be reviewed (as opposed to research specific to certain youth populations, such as youth with a certain diagnosis).

Early research by Casey and Berman (1985) examined 75 studies of psychotherapy outcomes with children and adolescents conducted between 1952 and 1983 and found that overall youth clients benefitted from psychotherapy services when compared to youth who received no services. Across all treatment modalities, presenting problems, and outcome measures, a mean effect size (*ES*) of 0.71 was observed. Additionally, the average child or adolescent scored better after participating in treatment than 76% of control-group youth.

An early meta-analysis of 105 studies with children and adolescents was completed by Weisz, Weiss, Alicke, and Klotz (1987). The studies reviewed were conducted between 1952 and 1983. The authors reported an overall mean *ES* of 0.79, suggesting that youth clients who received outpatient psychotherapy treatment were observed to show more improvement than 79% of youth who were not seen for psychotherapy. Another meta-analysis was completed by Weisz, Weiss, Han, Granger, and Morton (1995). This study consisted of a new sample of 150 studies published between 1967 and 1993 with youth populations and employed weighted least squares in the aim of controlling sample size bias. The *ES* using weighted least squares was 0.54 (*ES* of 0.71 with ordinary least squares). Overall, results were consistent with earlier research suggesting that outpatient psychotherapy appears to be helpful for adolescents and children.

Additional meta-analyses have been conducted investigating school-based psychotherapy specifically as well as outpatient clinical treatment and found data to suggest that psychotherapy is at least moderately effective (H. T. Prout & DeMartino, 1986; S. M. Prout & Prout, 1998). Furthermore, more detailed investigations and meta-analyses into common factors and psychotherapy with youth clients have found modest positive effects that largely seem commensurate with findings in the adult common factors literature, suggesting that common factors, such as therapeutic alliance, may play a significant role in youth treatment outcomes (Hawley & Garland, 2008; Karver, Handelsman, Fields, & Bickman, 2006; Martin, Garske, & Davis, 2000; Shirk & Karver, 2003).

An additional meta-analysis by Kazdin, Bass, Ayers, and Rodgers (1990) included 223 studies that were published between 1970 and 1988. When examining studies comparing treatment groups to no-treatment controls, a mean *ES* of 0.88 was found, suggesting that children and adolescents who received treatment showed more improvement than 81% of peers who did not receive treatment. Additionally, examination of those studies that included a treatment group compared to an active control group, a mean *ES* of 0.77 was found. Additional findings were that empirical studies differed from clinical treatment in several areas (e.g., modality, severity of disorder, treatment length). The authors raised questions regarding the generalizability of psychotherapy outcome research to real-world clinical treatment with children and adolescents.

Relatedly, an investigation of the fissure between youth treatment outcomes in clinic and research settings was conducted by Weisz, Donenberg, Han, and Weiss (1995). Weisz et al. examined nine studies of clinic psychotherapy outcomes with children and adolescents, which included a no treatment control group or placebo condition. Overall, the authors reported that the clinic therapy outcomes demonstrated poorer outcomes than those reported in research therapy studies. The authors concluded that this is the result of differences in lab studies and everyday psychotherapy treatment in clinical settings. For example, in previous studies recruited clients may have been recruited based on one or two central problems or may not have been otherwise reflective of actual clinical clients in outpatient treatment. Similarly, in previous studies, therapists may have received specialized training concentrating on specific techniques to use. Ultimately, the

investigators call for a need to bridge the gap between the two settings (clinical and research). The authors propose that one line of research that could help bridge the divide is to “[enrich] the research data base on treatment effects by practitioners in clinical settings” (Weisz et al., 1995, p. 688).

Given the importance of understanding youth treatment outcomes and the disparity between research and clinic settings and corresponding treatment outcomes, more research on child and adolescent psychotherapy treatment outcomes in clinic settings is needed. Further review of psychotherapy outcomes with broad-based clinical child and adolescent populations seen at real-world clinic settings (both training and nontraining) is necessary.

### **Clinical Outcomes in Psychology Training Clinic Settings**

Limited research has been done on client change in PTCs and no studies have been published examining child and adolescent outcomes in PTCs specifically. Nevertheless, studies examining the median effective dose and client outcomes have been conducted on adult treatment outcomes at PTCs, which may offer some insight into treatment outcomes at PTC settings.

### **Outcomes with Adults in PTCs**

One such study was conducted by Callahan et al. (2014) as part of an APTC-developed nationwide collaborative research network that aimed to conduct research with potential to inform services provided in PTC settings. The focus of this research was on

client expectations for treatment and client rates of premature termination. The study obtained data from six APTC member clinics and 216 outpatient adult psychotherapy clients who were seen for treatment at the various PTCs. Symptoms of distress were assessed throughout the course of treatment by the Outcome Questionnaire-45 (OQ-45; Lambert et al., 1996). Findings were that 30.6% of clients met criteria for clinically significant change, 7.2% demonstrated reliable improvement, 54.4% of clients showed no significant change, and 7.4% deteriorated.

K. K. Prout (2013) conducted a study on clinically significant change and client outcomes of 199 adult clients seen at a PTC by graduate-level student therapists. Change in outcomes was assessed using the OQ-45. The purpose of the study was to define the median effective dose, determine the proportion of clients meeting criteria for CS change or RI, and examine any potential factors associated with client change outcomes. At the end of treatment, 28% of clients seen met criteria for CS change and 23% met criteria for reliable improvement. Also, the median time required to meet criteria for CS change was approximately six sessions.

A study conducted by Callahan and Hynan (2005) investigated the dose-response model of psychotherapy outcome in psychotherapy clients seen at a PTC. The OQ-45 was used as an outcome measure in the study of 61 adult clients. Results were that 18% of clients demonstrated CS change, 15% reliably improved, 54% demonstrated no change, and 13% deteriorated. Additionally, the investigators reported that 8% of clients demonstrated either CS change or RI after eight treatment sessions, 31% demonstrated CS change or RI after 26 treatment sessions, and 38% demonstrated CS change or RI

after 52 sessions.

Another study by Anderson and Lambert (2001) evaluated CS change in 75 adult clients of a university training clinic. The OQ-45 was used as an outcome measure. At the end of treatment, 38% of the sample met criteria for CS change and it took 11 sessions for 50% of clients to meet criteria for CS change. An additional study by Kadera et al. (1996) investigated adult outcomes across treatment for 64 clients of a PTC. Again, the OQ-45 was utilized to track client outcomes. Results were that 33% of patients met criteria for CS change, 25% met criteria for reliable improvement, 37% demonstrated no change, and 5% deteriorated. Of the clients who met criteria for CS change, 14% did so by 4 sessions, 43% by 8 sessions, and 76% by 13 sessions.

One study by Tanner, Gray, and Haaga (2012) investigated adult client outcomes for clients seen by supervisor-trainee duos. A cotherapy supervision approach was used in which a clinical supervisor and therapist-in-training were both present during treatment as well as groups who were seen for treatment by trainees alone. Client outcomes were assessed using the OQ-45. Results found no statistically significant group differences in client outcomes between trainees who saw clients alone or as part of cotherapy supervision. Furthermore, the majority of clients showed significant reduction in symptoms on the OQ-45 from treatment start to termination.

Therefore, there is some inconsistency in findings regarding CS change for adults seen at training clinic settings. Overall, few studies have examined psychotherapy outcomes in PTCs; however, initial findings suggest that CS change has been observed in these settings for a little over a third of clients seen and that the median effective dose

may range from 6 to 11 sessions. Investigation of youth outcomes specific to PTCs is needed to develop a clear understanding of change across treatment for youth clients at such clinics and to better understand how treatment outcomes for youth at PTCs compare to outcomes for youth clients seen in nontraining clinics.

### **Youth Clinical Outcomes in Nontraining Settings**

Numerous studies have investigated child and adolescent treatment outcomes in nontraining settings. The current review is largely focused on broad-based child and adolescent populations outcomes as well as investigations using the Youth-Outcome Questionnaire (Y-OQ; Burlingame, Wells, & Lambert, 1996). A study conducted by Asay et al. (2002) reviewed 40 youth clients (25 children and 15 adolescents) from a private practice clinic. The study used the Y-OQ to track child and adolescent change across treatment. Survival analysis suggested that 25% of youth clients would be expected to attain CS change after 7 sessions and 50% after 14 sessions. At the end of treatment, 43% of all clients sampled met criteria for CS change and 30% reliably improved.

Another study by Ash and Weis (2009) investigated change outcomes and predictors of change outcomes of over 35,000 youth clients seen for outpatient psychotherapy at a myriad of settings in Ohio. A symptom severity assessment measure was used to track client outcomes and was completed by parents, therapists, and adolescents. Also, a 1-year follow up was conducted. Results were that about 15% of youth clients demonstrated reliable symptoms reduction within 3 months of the intake.

Furthermore, 1 year after treatment intake 55% of youth demonstrated reliable symptom reduction and one third of the sample was said to display CS change. Additionally, 10% of clients reliably improved after 3 months and 35% did so after 12 months.

Overall, research results from these investigations suggest beneficial outcomes for child and adolescents seen in nontraining settings; however, some research has not supported the existence of a therapy dose response-relationship among youth clients. For example, one investigation conducted by Bickman et al. (2002) evaluated the dose-response relationship for 125 youth clients of community mental health programs. The study utilized four different outcome measures. No statistically significant dose response was observed or in other words, analyses did not show relationship between amount of improvement and the amount of treatment. Furthermore, a previous meta-analysis of child studies examining dose-response found no statistically significant dose-response for children and adolescents (Casey & Berman, 1985). More recently, studies by Andrade, Lambert and Bickman (2000) and Salzer, Bickman, and Lambert (1999) investigated youth outcomes, across mental health treatment and found no significant dose-response relationship.

Some studies have reported significant findings but have found that the majority of clients experienced non-beneficial outcomes. Nelson, Warren, Gleave, and Burlingame (2013) investigated the accuracy of an early warning system for youth psychotherapy change trajectories using the YOQ-30 (Burlingame et al., 2004), which is a brief 30-item version of the Y-OQ 2.01. The sample consisted of archival data (1999-2005) of over 16,000 child and adolescent clients seen across various nontraining settings. Overall,



findings were that 13% of child and adolescent clients deteriorated and 66% demonstrated no significant change or improvement.

Another study by Warren et al. (2009) assessed treatment outcomes for 363 child and adolescent clients of a community mental health system. The Y-OQ was used as an outcome measure. Results were that over half of the youth in the sample did not achieve a positive outcome in treatment. Specifically, 21% were found to have had significantly higher symptoms at termination of treatment than at intake.

In conclusion, investigations into change outcomes for child and adolescent clients seen at nontraining settings was highly variable, with some studies reporting beneficial outcomes for a majority of clients (Asay et al., 2002; Ash & Weis, 2009) and others reported no statistically significant findings or adverse outcomes (Bickman et al., 2002; Casey & Berman, 1985; Salzer et al., 1999; Warren et al., 2009). Ultimately, additional research of clinical outcomes in PTCs is needed to conclude whether or not youth clients are profiting from treatment and whether youth outcomes are equivalent to other nontraining settings.

### **Contextual Factors Associated with Client CS Change**

In addition to research on CS change outcomes, there has been limited investigation of various client-specific and contextual factors associated with change outcomes of youth clients seen at PTCs. While there is a broad literature on child and adolescent outcomes with specific youth populations, the research on predictors of outcomes in general clinical populations is more limited. A number of factors, including

demographic, preexisting, therapeutic, and therapist-specific variables, may serve as potential modifiers of change for child and adolescent clients. In fact, Gordon et al. (2012) argued that better understanding of the predictors of treatment outcomes for youth clients could serve to help therapists identify, monitor, and ultimately better serve clients (e.g., through more targeted clinic procedures and policies). As such, additional investigation into these possible correlates of CS change is critical to informing better clinical practice and improving youth outcomes across treatment.

### **Contextual Factors and Youth Outcomes in Nontraining Settings**

To date, no published studies have evaluated factors associated with youth CS change or RI in PTCs; however, a wide-array of studies have examined various factors associated with CS change or RI in child and adolescent treatment outcomes in a range of nontraining settings. Research findings in this area are somewhat mixed with some studies identifying factors associated with treatment outcomes while other studies have found no predictors of change or have found conflicting correlations.

Ash and Weis's (2009) study of predictors of change outcomes for over 35,000 child and adolescent clients seen for outpatient mental health services assessed for various possible predictors of change. The study examined factors such as client age, gender, primary diagnosis and whether these were predictors of client outcomes. Results were that child and adolescent outcomes largely varied by informant, with client age being the only consistent predictor of youths' outcomes. Specifically, adolescents were about 1.5 times more likely to demonstrate RI or CS change than children. Another

finding was that girls were 1.2 times more likely than boys to achieve RI across the course of treatment. Similarly, prior research on client characteristics of youth clients seen in university-based research settings found that adolescents tend to show greater treatment gains than younger children and that female clients show greater improvement than males (Weisz, Weiss, et al., 1995). Also, a significant interaction was found for age and gender such that adolescent girls improved significantly more than adolescent boys (Weisz, Weiss et al., 1995).

A study by Kolko et al. (2011) investigated predictors of clinical outcomes in a randomized control trial of 163 clinically referred children in primary care setting. A number of outcome measures were utilized, including standardized rating scales of child health symptom-specific assessment, and level of child dysfunction. The study examined multiple variables, including client ethnicity, household income, severity of child depression, severity of child anxiety, level of child functional impairment in various domains, presence of negative parenting practices, perceived caregiver burden, exposure to adverse events (e.g., family conflict), hours of treatment, treatment modality, and supervisor's treatment fidelity ratings. Results were that severity of depression, severity of anxiety, and level of parent-reported family conflict were predictive of child level of improvement. Specifically, children with high ratings of depression, anxiety, and exposure to family conflict demonstrated a greater increase in overall health. Also, children high in functional impairment demonstrated a greater reduction in severity of dysfunction at 12-month follow-up.

In addition, Gordon et al. (2012) investigated predictors of treatment outcomes in

approximately 3,200 clients of a child and adolescent psychiatry clinic ranging from 3-17 years old. The study examined a number of variables, including child age, number of children in the family, client sex, ethnicity, parent's marital status, parent education level, diagnosis, school classroom placement, history of medical problems or hospitalizations, history of substance use, trauma, prior pharmacotherapy use, parent psychopathology, and therapist degree among others. Results were that children who were rated as improved by their therapist on an outcome measure tended to be White, come from intact families, or had a mother with a history of anxiety. Additionally, predictive relationships were found between maternal depression and no change in outcomes as well as African American racial status and no change. Furthermore, several variables were found to be unrelated to any outcomes, including child gender, age, diagnosis, type of treatment, and treatment provider degree.

Dowell and Ogles (2010) completed a meta-analysis of the impact of parent participation on child psychotherapy outcomes. The review included 48 child psychotherapy outcome studies that included a combined parent-child/family treatment group and an individual child treatment group. Given this was a meta-analysis a variety of outcome measures were employed to track treatment outcomes (e.g., including the CBCL). Results were that the combined parent and child groups demonstrated a moderate effect ( $d = 0.27$ ). Findings suggest that the inclusion and participation of youth client's parents in psychotherapy demonstrates increased benefits when compared to youth clients seen in individual child therapy (without parents/families actively involved). This suggests that parental involvement and inclusion in services may serve as a possible

predictor of treatment outcome.

While these studies found significant relationships between client therapeutic, demographic, and therapist-specific factors and clinical treatment outcomes, a number of other studies in nontraining settings report mixed findings or no significant findings all-together. For example, Warren et al. (2009) looked at clinical outcomes for 363 children and adolescents between the ages of 4 and 17 who were seen at a community clinic. The Y-OQ was used to track change in outcomes. Investigators developed a model for predicted change directed trajectories and found that after controlling for the effects of age, no variables were significantly related to treatment failure.

In addition, Nilson et al. (2013) completed a literature review of 45 published studies (32 anxiety studies and 13 depression studies) in order to examine predictors of treatment outcomes in children with anxiety and depression. Overall, the authors reported no significant associations between client demographic variables, including client sex or age, and treatment outcome. However, they did find that there were significant differences between depression and anxiety studies in term of identifying predictors. Certain clinical factors, including comorbid anxiety and depression, were found to be predictive of treatment outcome in depression studies. Overall, the majority of findings indicate that symptom severity influenced depressed treatment response. Similarly, findings for studies with children with anxiety identified no factors predictive of outcomes. However, studies of youth with depression suggest that symptom severity at treatment start and comorbid anxiety may impact treatment outcomes.

In conclusion, empirical investigation on factors relating to child and adolescent

clinical outcomes has identified a number of factors that appear to be associated with client change in outcomes; however, this research has primarily been conducted in nontraining settings. Accordingly, further investigation is needed specific to PTCs to identify any possible client, therapist, or therapeutic factors related to youth change in treatment outcomes at such settings, given the unique training focus in such settings. This would likely assist in training and therapist-development at PTCs as well as determine whether findings evidenced in nontraining environments are comparable to training settings.

Furthermore, investigation of factors relating to change for youth seen at PTCs should work to examine factors previously studied (e.g., client sex, age, ethnicity, therapist degree, length of treatment, diagnosis/presenting problem, household income, conflict in the home, presence of stressors/adverse events, number of children in the family, parent's marital status, school classroom placement, history of medical problems or hospitalizations, history of substance use, trauma/abuse, and prior/current pharmacotherapy use among others). In addition to these variables, other potential factors which may affect client outcomes and during treatment should be investigated as well. For the current study, these additional variables include language used in the home, parent employment status, session cost, history of developmental delay, presence of significant conflict at home or recent stressor, family religious affiliation, previous psychological services, suicidal ideation or self-injury, parent(s) involvement in treatment (e.g., which caregiver and extent of involvement), interventions used, type of treatment termination, therapist sex, and therapist ethnicity.

These variables have the potential to significantly impact a child or adolescent's functioning, behavior, and overall experience in psychotherapy. As such, they should be investigated to determine if they influence treatment outcomes in any way. Additionally, investigation of these additional variables can serve to advance clinical practice and better understand potential relationships between various client factors and change across treatment. The current study evaluated all possible relationships between variables influencing a child or adolescent's outcomes across treatment in order to facilitate a greater understanding of client change.

### **Purpose of the Study**

The current study assessed change in psychotherapy outcomes for child and adolescent clients of an outpatient graduate-level psychology training clinic. The purpose of the current study is to identify any factors associated with change outcomes and to characterize change in treatment outcomes for youth clients seen at a university PTC. The current project seeks to answer the following specific empirical questions.

1. Determine to what degree child and adolescent clients at a university training clinic meet criteria for clinically significant change, reliable improvement, no change, or deterioration at the termination of therapy and examine preexisting characteristics of clients in each change outcome subgroup.
  - a. Client outcome data on the Y-OQ 2.0 will be analyzed to determine the percentage of clients who meet criteria for CS change, RI, no change, and deterioration. Additionally, frequency and descriptive analyses will be conducted to characterize the sample for each of the change groups (e.g., CS Change, Reliable Improvement, No Change, and Deterioration).

2. Determine the number of sessions necessary for 50% of child and adolescent clients to meet criteria for CS change.
  - a. Survival analysis on client outcome data on the Y-OQ will be conducted to determine the number of sessions required for 50% of clients in the sample to demonstrate CS change.
3. Identify what factors are associated with CS change, RI, no change, or deterioration for child and adolescent clients of a university training clinic?
  - a. Various factors (e.g., therapeutic, therapist-oriented, preexisting, and demographic) will be coded for each client. Data analysis will include examination of statistically significant correlations of CS change, RI, no change, and deterioration in outcomes across treatment.



## **CHAPTER III**

### **METHODS**

#### **Participants**

The current study used archival data from 169 outpatient child and adolescent psychotherapy clients of a graduate-level psychology training clinic who were seen for treatment between January 2005 and December 2014. A minimum of 100 participants were necessary in order to maintain adequate power for detecting minimum correlations (0.3) between client outcomes and factors associated with change. To meet inclusion criteria for the study, clients needed to: (a) be 17 years or younger at the time of intake; (b) be seen by a graduate student therapist for outpatient treatment at a psychology training clinic; (c) have attended a minimum of two sessions (including intake); and (d) have had parents complete at least two Y-OQ 2.01 questionnaires. The following clients were excluded from the study: clients seen by a licensed psychologist, clients who only attended an intake interview, clients whose parents did not complete two Y-OQ questionnaires, or clients who were seen for a psycho-educational evaluation only.

#### **Sample Characteristics**

Four hundred fifty-two clinical case files of clients seen at a graduate-level PTC were reviewed to determine if case files met criteria for inclusion in the study. Of the 452 cases reviewed, 169 met all inclusion criteria for the study and 283 were excluded from participation due to the following: client was seen for an intake only (64 cases), client was seen for a psycho-educational evaluation only (73 cases), or client was not

administered at least two Y-OQs during the course of treatment (146 cases). The mean number of treatment sessions for child and adolescent clients attended was 8.18 ( $SD = 7.20$ ; range from 2 to 52 sessions) and the mean number of Y-OQ questionnaires completed throughout treatment was 5.54 ( $SD = 4.21$ ). The mean score on the Y-OQ 2.01 Total Score at the start of treatment was 65.83 ( $SD = 28.06$ ) while the mean score on the Y-OQ Total Score at the termination of treatment was 47.83 ( $SD = 30.87$ ). The mean difference from initial Y-OQ 2.01 to final was 18 points ( $SD = 23.73$ ).

The sample consisted of 169 clients (59.2% male) and consisted of primarily White clients (83.4%;  $N = 141$ ) with 41.4% ( $N = 70$ ) of clients' mothers and 64.5% ( $N = 109$ ) of clients' fathers employed at the time of intake. The mean age of clients was 8.98 years ( $SD = 3.76$ ) at the start of treatment and approximately 30.2% ( $N = 51$ ) reported a recent stressor or current significant family conflict at the time of intake. A recent stressor or conflict was coded positive for the following: parental separation/divorce, recent family move, loss of a loved one, significant deterioration in a parent/sibling health, or recent abuse or trauma. The majority of clients reported no history of developmental delay (72.2%;  $N = 122$ ) or significant illness (60.4%;  $N = 102$ ). Approximately 21.3% ( $N = 36$ ) of clients were taking psychoactive medication at the time of intake (medication coded by drug class and dosage reported at intake) and 58 clients (34.3%) reported having participated in previous mental health services. A full review of demographic characteristics for the sample is listed in Table 1.

Table 1

*Demographic Sample Characteristics*

Variable	<i>N (%) / M (SD)</i>	Variable	<i>N (%) / M (SD)</i>
Gender		Conflict/stressor present at intake	51 (30.2%)
Female	69 (40.8%)	Religion	
Male	100 (59.2%)	LDS	15 (8.9%)
Age	8.98 (3.76)	Not Reported	154 (91.1%)
Race		Language Used At Home	
White	141 (83.4%)	English	165 (97.6%)
Black	1 (0.60%)	Spanish	4 (2.4%)
Asian	2 (1.2%)	History of Developmental Delay	
Latino	7 (4.1%)	Yes	27 (16.0%)
Multi-racial	1 (0.60%)	No	122 (72.2%)
Not reported	17 (10.1%)	Not Reported	20 (11.8%)
Mom employment status		Illness/Health Condition	
Employed	70 (41.4%)	Yes	35 (20.7%)
Unemployed	52 (30.8%)	No	102 (60.4%)
On disability	1 (0.60%)	Not Reported	32 (18.9%)
Full-time student	2 (1.2%)	Use of Substances at Intake	
Not reported	43 (25.4%)	Yes	3 (1.8%)
Dad employment status		No	2 (1.2%)
Employed	109 (64.5%)	Not Reported	164 (97%)
Unemployed	2 (1.2%)	Psychoactive Medication at Intake	
On disability	1 (0.60%)	Yes	36 (21.3%)
Full-time student	1 (0.60%)	No	78 (46.2%)
Retired	1 (0.60%)	Not Reported	55 (32.5%)
Not reported	48 (28.4%)	Type of Medication Taken	
Session cost	\$29.66 (13.70)	Antidepressant	18 (10.7%)
Range of cost	\$8 - 70	Stimulant	13 (7.7%)
Monthly income	600 – 10,000	Antipsychotic	3 (1.8%)
Parent marital status		Sleep	2 (1.2%)
Married	23 (13.6%)	Had Prior Psychological Services	58 (34.3%)
Divorced	19 (11.2%)	Suicidal Ideation Present at Intake	10 (5.9%)
Single	1 (0.60%)	History of Past Abuse	11 (6.5%)
Widowed	1 (0.60%)	Type of Abuse	
Divorced & remarried	16 (9.5%)	Physical	6 (3.6%)
Estranged/no contact	5 (3.0%)	Sexual	4 (2.4%)
Not reported	104 (61.5%)		

*Note.* The range is provided for monthly income and session cost.

After reviewing various preexisting characteristics of the sample at intake, 44.1% ( $N = 70$ ) of clients reported conduct problems (e.g., tantrums, verbal and physical aggression, noncompliance, oppositional behavior) as the primary presenting concern with 17.8% ( $N = 30$ ) reporting a primary concern of anxiety. A myriad of presentations was observed in the sample, including depression, inattentive behavior, hyperactivity/impulsivity, academic concerns, sleep, adjustment, toileting, social concerns, self-harm, and various compulsive behaviors (e.g., hair pulling or skin picking). The duration of the primary presenting problem ranged from onset in the past month (1.2%;  $N = 2$ ) to onset before one year prior (37.3%;  $N = 63$ ). A full review of preexisting variables is listed in Table 2.

Table 2

*Preexisting Sample Characteristics*

Variable	<i>N (%) / M (SD)</i>	Variable	<i>N (%) / M (SD)</i>
Primary presenting problem		Secondary presenting problem	
Conduct problems	70 (44.1%)	Conduct problems	25 (14.8%)
Anxiety	30 (17.8%)	Anxiety	14 (8.3%)
Depression	17 (10.1%)	ADHD-related	14 (8.3%)
ADHD-related	16 (9.5%)	Social/relational	10 (5.9%)
Social/relational	8 (4.7)	Depression	9 (5.3%)
Toileting	7 (4.1%)	Sleep	6 (3.6%)
Academic	4 (2.4%)	Toileting	4 (2.4%)
Adjustment	4 (2.4%)	Academic	4 (2.4%)
Sleep	3 (1.8%)	Adjustment	2 (1.2%)
Self-harm	3 (1.8%)	Length of presenting problem	
Hair pulling	3 (1.8%)	Onset in past month	2 (1.2%)
Bereavement	2 (1.2%)	Onset in last 6 months	27 (16.0%)
Picky eating	1 (0.6%)	Onset in last year	22 (13.0%)
Skin picking	1 (0.6%)	Onset prior to one year ago	63 (37.3%)
		Not reported	55 (32.5%)

Last, various therapeutic characteristics of the sample were considered. Approximately 18.9% ( $N = 32$ ) of clients participated in treatment for less than 1 month with 18.9% ( $N = 32$ ) participating in treatment for between 1 to 2 months. Most clients, 47.3% ( $N = 80$ ), were referred by a physician, with 21.9% ( $N = 37$ ) of clients being parent-referred and 11.8% ( $N = 20$ ) being referred by family or friends. In terms of which family members were present at the intake session, 62.7% ( $N = 106$ ) of mothers attended the intake session alone with their child while only 5.3% ( $N = 9$ ) of fathers attended the intake alone with their child. However, 28.4% of mothers and fathers attended the intake session together with their child. Mothers attended the most number of sessions (75.1%;  $N = 127$ ) with 16% ( $N = 27$ ) of mothers and fathers attending equal number of sessions. Furthermore, 29% ( $N = 49$ ) of parents/caregivers pairs attended the majority of sessions. In terms of theoretical orientations used during treatment, the majority of cases employed a behavioral or cognitive behavioral orientation. Approximately 60.9% ( $N = 103$ ) of cases used behavioral intervention and 32% ( $N = 54$ ) of cases used cognitive behavioral intervention, including acceptance and commitment therapy. The person who was primarily the focus of treatment was the parent(s) 50.9% ( $N = 86$ ) of the time (e.g., during behavioral parent training). At termination, 34.9% ( $N = 59$ ) of clients cancelled treatment without planning to do so with the therapist and 32.5% ( $N = 55$ ) engaged in planned termination. A full review of therapeutic characteristics is listed in Table 3.

### **Procedures**

All child and adolescent clients were seen for outpatient psychotherapy at a PTC

Table 3

*Therapeutic Sample Characteristics*

Variable	<i>N (%) / M (SD)</i>	Variable	<i>N (%) / M (SD)</i>
Referral type		Dad attended over 50% of sessions	51 (30.2%)
Parent-referred	37 (21.9%)	Dad attended all sessions	41 (24.3%)
Physician	80 (47.3%)	Dad attended at least 1 session	80 (47.3%)
Friend/family	20 (11.8%)	Both parents attended majority	49 (29%)
School	1 (0.6%)	Other caregiver attend at least 1	11 (6.5%)
Mental health provider	18 (10.7%)	Other caregiver attended majority	2 (1.2%)
Self-referred	2 (1.2%)	Who attended the most no. of sessions	
Court ordered	2 (1.2%)	Mothers	127 (75.1%)
Speech pathologist	2 (1.2%)	Fathers	5 (3.0%)
Not reported	7 (4.1%)	Mothers and fathers equally	27 (16%)
Length of treatment		Other caregiver	3 (1.8%)
Less than 1 month	32 (18.9%)	Client attended alone	1 (0.6%)
One to two months	32 (18.9%)	Orientation used	
Two to three months	26 (15.4%)	Behavioral intervention	103 (60.9%)
Three to four months	20 (11.8%)	Cognitive behavioral intervention	54 (32%)
Four to five months	18 (10.7%)	Skills training	5 (3%)
Five to six months	18 (10.7%)	General support/problem solving	4 (2.4%)
Six months to 1 year	18 (10.7%)	Motivational interview	2 (1.2%)
Over one year	5 (3.0%)	Psychoeducation	1 (0.6%)
Who attended the intake		Treatment-focused person	
Mom only	106 (62.7%)	Parents	86 (50.9%)
Dad only	9 (5.3%)	Child/adolescent client	52 (30.8%)
Both parents	48 (28.4%)	Both parents and client	31 (18.3%)
One parent & other caregiver	3 (1.8%)	Termination type	
Grandparent only	2 (1.2%)	Client cancelled, unplanned	59 (34.9%)
Current guardian	1 (0.60%)	Failure to reschedule	55 (32.5%)
Total no. Sessions	8 (7)	Planned	55 (32.5%)

anytime from January 2005 to December 2014. The Y-OQ 2.01 was administered to clients' parent(s)/caregiver(s) at intake and each successive therapy session. During the intake, a review of confidentiality of clinical materials was completed and all clients gave informed consent that data obtained during treatment may be de-identified and used for

research. Appropriate and ethical measures were taken to keep information confidential and during data collection, appropriate measures were taken to de-identify any potential identifying information. An exempt IRB approval was completed through the Utah State University IRB prior to beginning the current research study.

All clients had terminated treatment prior to inclusion in the study, with case files being kept in the PTC until purge date. Data were collected through a case file review. Each client was assigned a de-identified number that was documented in the client's physical clinical file to ensure all data were entered accurately. Information from the case file review was entered into a de-identified database. Entered data included client basic demographics, intake and disposition date, as well as all Y-OQ scores. Furthermore, client clinic files were coded for a variety of variables possibly relating to change in outcomes across treatment. These variables and coding criteria are outlined in Appendix A.

## **Measures**

### **Youth-Outcome Questionnaire**

In order to assess client change across treatment, repeated measurement that is sensitive to change and an operationalized definition of CS change is needed. First, The Youth-Outcome Questionnaire (Y-OQ 2.01; Burlingame et al., 2005) is a 64-item paper-and-pencil instrument designed to assess symptoms of distress across six primary areas: interpersonal distress (ID), somatic (S), interpersonal relations (IR), social problems (SP), behavioral dysfunction (BD), and critical items (CI). The Y-OQ 2.01, which is a parent-

report measure for children and adolescents ages 4 to 17 years. The clinical cutoffs and RCI values for the Y-OQ 2.01 Total score and subscale scores are listed in Appendix B.

The Y-OQ has been used to investigate clinical outcomes in a variety of settings and has been found to be a reliable measure of change that is appropriate to use on a weekly basis. The Y-OQ 2.01 total score has been found to evidence high internal consistency ( $r = 0.97$ ) with adequate to high internal consistency across the subscales (ranging from Somatic ( $r = 0.77$ ) to interpersonal Distress ( $r = 0.93$ ; Burlingame et al., 2005). In addition, the Y-OQ has been found to demonstrate good 2-week ( $r = 0.84$ ) and 4-week ( $r = 0.81$ ) test-retest reliability (Burlingame et al., 2001). Additionally, the Y-OQ has demonstrated adequate correlation with the Child Behavior Checklist (CBCL), with one study citing a correlation of 0.84 between total scores on the Y-OQ and CBCL (Burlingame et al., 2005). In addition, research has found the Y-OQ to have adequate construct validity and to be sensitive to changes in symptomology over treatment (0.66) (Burlingame et al., 2005). One study, found the Y-OQ to be the most sensitive to change compared to the CBCL and Behavior Assessment System for Children-2 (BASC-2; McClendon et al. 2011).

Second, a standardized definition of CS change is required to determine whether changes in outcomes are clinically significant for clients. Criteria put forward by Jacobson and Truax (1991) regarding CS change will be applied to outcomes on the Y-OQ, such that CS change necessitates a client start treatment above the clinical cutoff and end treatment below the cutoff. Additionally, the change in score must meet or exceed the RCI for that scale. This criterion has been applied to studies of adult treatment outcomes



on the Outcome Questionnaire-45 (Lambert et al., 1996), a similar assessment of symptoms of distress as the Y-OQ but for adult clients (Anderson & Lambert, 2001; Callahan & Hynan, 2005; Callahan et al., 2014; K. K. Prout, 2013).

### **Clinical File Review**

Clinical records for each client were reviewed systematically using an outlined coding sheet (see Appendix A). The coding sheet was designed for the purposes of the study in order to obtain the necessary information on variables related to change in outcomes. The coding sheet reviews data spanning a myriad of areas, including demographic information, therapeutic information, preexisting information, and therapist-specific information. The current study sought to develop an understanding of how such variables might relate to a child's change in scores across treatment.

Each clinical file was coded for the following client demographic variables: client sex, age, ethnicity, language used at home, parent employment status for each parent, parent marital status, family monthly income, religion, and session cost; preexisting variables: history of developmental delay, presence of stressor/conflict at home, use of substances, use (and type) of prescription medication (e.g., stimulant, antidepressant, sleep, antipsychotic, etc.), presence of a significant medical condition or injury, previous psychological services, history of past abuse, suicidal ideation; and therapeutic variables: nature of presenting problem, length of the problem, referral source, number of treatment sessions, length of treatment, interventions used, family members who were present at intake and further treatment sessions, and type of termination. Also, any additional supplementary standardized assessment data included in clinical charts was coded as well

in order to allow for comparisons between the Y-OQ and any scores on other standardized measures, including the Child Behavior Checklist (Achenbach, 1991; Achenbach & Rescorla, 2004) and the Behavior Assessment Scale for Children, Second Edition (Reynolds & Kamphaus, 2004). Coded information was primarily obtained from the intake report and disposition note. And finally, therapist-specific data included student therapist sex, ethnicity, and level of training. This information was obtained by examining student therapist date entering the program and date client was seen. Level of training was determined based on the number of years of training since starting the program (e.g., second year of training) and will account for student therapists who entered the program with a clinical master's degree.

A double-blind coding procedure was completed independently by two graduate student investigators for 20 clinical case files. These files were randomly selected and coded according to the coding sheet (Appendix A). Reliability checks were completed on key coded variables by calculating a Kappa statistic to determine the agreement between the two coders. Overall, the interrater reliability was very good with Kappa coefficients ranging from 0.91 for agreement between coders on mother's employment status, presence of significant illness or health condition, or previous psychological services to Kappa coefficients of 1.0 for agreement between coders on a number of variables, including client sex, age, race, referral source, father's employment status, history of developmental delay, number of sessions attended, and which family members attended the intake session. Table 4 lists interrater reliability data for each key variable.

Table 4

*Interrater Reliability Data Among Two Independent Coders*

Variable	Kappa coefficient
Client sex	1
Client age	1
Race	1
Mom employment status	0.91
Dad employment status	1
Referral type	1
Health condition/illness	0.91
Developmental delay history	1
Medication use at intake	0.92
Previous psych services	0.91
Presenting problem area	0.93
Who attended intake	1
No. Of sessions attended	1
Orientation used	0.91
Person focus of treatment	0.93

**Experimental Design**

The current study used a retrospective-archival design to examine the occurrence of CS change, RI, no change, and deterioration from treatment start to termination. Hard copies of client clinical records were coded and data utilized to evaluate any possible correlation between the occurrence of change outcomes and various contextual factors.

**Data Analyses**

The following data analyses were conducted to address each research objective. The first research question sought to determine to what degree child and adolescent clients at a PTC met criteria for CS change, RI, no change, or deterioration at the

termination of therapy and examine preexisting characteristics of clients in each change outcome subgroup. In order to address this research question, outcome data from the Y-OQ was analyzed to determine the percentage of clients who met criteria for CS change, RI, no change, and deterioration. Also, the sample was reduced down to four different change outcome groups (e.g., clients who met criteria for CS change, clients who met criteria for RI, those who displayed no change, and those who deteriorated). Then descriptive analyses were run for each of these subgroups to gain a better understanding of various group characteristics.

The second research question aimed to determine the number of sessions necessary for 50% of child and adolescent clients to meet criteria for CS change. In order to address this research question, survival analysis of the Y-OQ data was conducted to determine the number of sessions required for 50% of clients in the sample to demonstrate CS change.

Last, the third research question was to identify what factors are associated with CS change, RI, no change, or deterioration for child and adolescent clients of a university psychology-training clinic. In order to address this research question, Pearson correlation coefficients were calculated for various factors coded from clinical files and CS change, RI, no change, and deterioration outcomes.

## CHAPTER IV

### RESULTS

#### Percentage of Clients Meeting Change Outcomes

The initial research question aimed to determine the degree to which clients at a PTC met criteria for CS change, RI, no change, or deterioration at the termination of treatment and to examine preexisting characteristics of each change outcome subgroup. CS change was said to occur when (a) a client's initial score was above the clinical cutoff and dropped below the clinical cutoff by the end of treatment, and (b) also demonstrated a change in scores from initial to final assessment that met or exceeded the RCI. Reliable Improvement was said to occur when a client's change in scores met or exceeded the RCI in the improved direction but did not change from above the clinical cutoff to below. No change was said to occur when a client's change in scores on the Y-OQ did not meet or exceed the RCI. Deterioration occurred when a client's scores met or exceeded the RCI, but the change in scores occurred in the dysfunctional direction, indicating an increase in symptoms of distress. Clinical cutoff values and RCIs for the Y-OQ 2.01 are listed in Appendix B.

Results for the Y-OQ 2.01 total score are listed in Table 5. Overall, 40 clients (23.7%) demonstrated CS change, 57 clients (33.7%) demonstrated reliable improvement, 62 clients (36.7%) demonstrated no change, and 10 clients (5.9%) deteriorated. Therefore, slightly over half of the sample, or 57.4%, reliably improved or demonstrated CS change throughout the course of therapy.

Table 5

*Change Outcomes on the Y-OQ 2.01 Total Score*

Scale name	<i>n</i>	%
CS change	40	23.7
Reliable improvement	57	33.7
No change	62	36.7
Deterioration	10	5.9

### **Preexisting Characteristics of Various Outcomes Groups**

The current study sought to investigate various preexisting characteristics of clients in each change outcome subgroup in the attempt to develop a clearer understanding of client's change in outcomes across treatment. Sample characteristics by change outcome group are provided in Table 6.

Forty clients demonstrated CS change during the current study. Of these 40, 52.5% ( $n = 21$ ) were male and the mean age was 9.8 ( $SD = 3.8$ ). The majority of these clients reported no history of developmental delay (70%;  $n = 28$ ) and no significant health condition (62.5%;  $n = 25$ ). Approximately 42.5% ( $n = 17$ ) of clients in the CS change subgroup denied taking any psychoactive medication at the time of intake and 52.5% ( $n = 21$ ) of clients reported no prior psychological services. Clients who obtained CS change most often attended the intake session with their mother only (62.5%;  $n = 25$ ) or with both of their parents/caregivers (32.5%;  $n = 13$ ). The majority of clients in this group presented to treatment with conduct problems (42.5%;  $n = 17$ ) as a primary concern. Thirty-five percent ( $n = 14$ ) of these clients reported the onset of symptoms began more than a year prior to intake. The mean number of sessions attended (including

Table 6

*Sample Characteristics by Outcome Subgroup*

Variable	CS change <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	Reliable improvement <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	No change <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	Deterioration <i>n</i> (%) / <i>M</i> ( <i>SD</i> )
Gender				
Female	19 (47.5%)	23 (40.4%)	24 (38.7%)	3 (30%)
Male	21 (52.5%)	34 (59.6)	38 (61.3%)	7 (70%)
Age	9.8 (3.8)	8.4 (3.6)	8.8 (3.7)	10.2 (4.7)
Had a developmental delay	5 (12.5%)	10 (17.5%)	9 (14.5%)	3 (30%)
Significant illness/condition	9 (15%)	10 (17.5%)	11 (17.7%)	5 (50%)
Taking medication at intake	8 (20%)	10 (17.5%)	14 (22.6%)	4 (40%)
Prior psychological services	15 (37.5%)	17 (29.8%)	23 (37.1%)	3 (30%)
Primary presenting problem				
Conduct problems	17 (42.5%)	25 (43.9%)	24 (38.7%)	4 (40%)
Anxiety	7 (17.5%)	11 (19.3%)	10 (16.1%)	2 (20%)
Depression	4 (10%)	5 (8.8%)	7 (11.3%)	1 (10%)
ADHD-related	3 (7.5%)	6 (10.5%)	7 (11.3%)	N/A
Social/relational	2 (5)	2 (3.5%)	2 (3.2%)	2 (20%)
Toileting	N/A	3 (5.3%)	4 (6.5%)	N/A
Academic	3 (7.5%)	N/A	1 (1.6%)	N/A
Adjustment	1 (2.5%)	N/A	3 (4.8%)	N/A
Sleep	3 (2.5%)	1 (1.8%)	1 (1.6%)	N/A
Self-harm	1 (2.5%)	1 (1.8%)	N/A	1 (10%)
Hair pulling	N/A	1 (1.8%)	2 (3.2%)	N/A
Bereavement	1 (2.5%)	1 (1.8%)	N/A	N/A
Picky eating	N/A	1 (1.8%)	N/A	N/A
Skin picking	N/A	N/A	1 (1.6%)	N/A
Length of problem				
Onset in past month	N/A	1 (1.8%)	1 (1.6%)	N/A
Onset in last 6 months	8 (20%)	5 (8.8%)	10 (16.1%)	4 (40%)
Onset in last year	8 (20%)	6 (10.5%)	6 (9.7%)	2 (20%)
Onset prior to 1 year ago	14 (35%)	23 (40.4%)	23 (37.1%)	3 (30%)
Not reported	10 (25%)	22 (38.6%)	22 (35.5%)	1 (10%)
Length of treatment				
Less than 1 month	5 (12.5%)	12 (21.1%)	14 (22.6%)	1 (10%)
One to 2 months	6 (15%)	11 (19.3%)	13 (21%)	2 (20%)
Two to 3 months	7 (17.5%)	13 (22.8%)	5 (8.1%)	1 (10%)
Three to 4 months	6 (15%)	3 (5.3%)	11 (17.7%)	N/A
Four to 5 months	5 (12.5%)	8 (14%)	3 (4.8%)	2 (20%)

*(table continues)*

Variable	Reliable			
	CS change <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	improvement <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	No change <i>n</i> (%) / <i>M</i> ( <i>SD</i> )	Deterioration <i>n</i> (%) / <i>M</i> ( <i>SD</i> )
Five to 6 months	7 (17.5%)	4 (7%)	4 (6.5%)	3 (30%)
Six months to 1 year	3 (7.5%)	5 (8.8%)	9 (14.5%)	1 (10%)
Over 1 year	1 (2.5%)	1 (1.8%)	3 (4.8%)	N/A
Who attended the intake				
Mom only	25 (62.5%)	39 (68.4%)	35 (56.5%)	7 (70%)
Dad only	2 (5%)	2 (3.5%)	5 (8.1%)	N/A
Both parents	13 (32.5%)	14 (24.5%)	18 (29%)	3 (30%)
Parent & other	N/A	N/A	3 (4.8%)	N/A
Grandparent only	N/A	2 (3.5%)	N/A	N/A
Current guardian	N/A	N/A	1 (1.6%)	N/A
Total no. Sessions	8.1 (5.2)	7.8 (4.9)	8.7 (10.1)	7.9 (3.5)
Treatment-focused person				
Parents	19 (47.5%)	29 (50.9%)	34 (54.8%)	4 (40%)
Child/adolescent client	11 (27.5%)	18 (31.6%)	20 (32.3%)	3 (30%)
Both parents and client	10 (25%)	10 (17.5%)	8 (12.9%)	3 (30%)

Of the 57 clients who reliably improved across the course of treatment, 59.6% ( $n = 34$ ) were male and 28.1% ( $n = 16$ ) reported a significant stressor at the time of intake. The mean age of clients in this subgroup was 8.4 ( $SD = 3.6$ ). The majority (78.9%;  $n = 45$ ) reported no history of developmental delay nor significant health condition (64.9%;  $n = 37$ ). Additionally, over half reported no use of medication (54.4%;  $n = 31$ ) or prior psychological services (56.1%;  $n = 32$ ). Approximately 68% ( $n = 39$ ) of clients in this group attended the intake session with their mother only, while 24.6% ( $n = 14$ ) attended with both parents/caregivers. The primary presenting problem was conduct problems in 43.9% ( $n = 25$ ) of the cases and anxiety in 19.3% ( $n = 11$ ). Forty percent of clients reported the problem onset more than a year prior. The mean number of sessions was 7.8 ( $SD = 4.9$ ).



Of the 62 who demonstrated no change during the course of treatment, 61.3% ( $n = 38$ ) were male and 30.6% ( $n = 19$ ) reported a recent stressor at the time of intake. The mean age was 8.8 ( $SD = 3.7$ ). The majority reported no history of developmental delay (67.7%;  $n = 42$ ) and no current illness/health condition (59.7%;  $n = 37$ ). Approximately 22.6% ( $n = 14$ ) of clients in this group reported taking psychoactive medication and 37.1% ( $n = 23$ ) reported prior mental health services. Clients in this group most often attended the intake with their mother only (56.5%;  $n = 35$ ). Most clients in this group reported concerns with conduct problems (38.7%;  $n = 24$ ) or anxiety (16.1%;  $n = 10$ ) at the time of intake. The duration was long-term (greater than 1 year) in 37.1% ( $n = 23$ ). The mean number of sessions attended was 8.7 ( $SD = 10.1$ ).

Lastly, the final group consisted of clients who got worse or deteriorated throughout the course of treatment. Of these 10, 70% ( $n = 7$ ) were male and 70% ( $n = 7$ ) reported a recent stressor at the intake. The mean age was 10.2 ( $SD = 4.7$ ). Only 30% ( $n = 3$ ) of clients in this subgroup reported a history of developmental delay, while 50% ( $n = 5$ ) reported a significant health condition or illness at intake. Forty percent of clients reported they were taking medication at intake and 50% reported no history of psychological services. Seventy percent ( $n = 7$ ) of clients attended the intake with their mother only. Conduct problems was the most common presentation (40%;  $n = 4$ ). 40% of clients reported symptom onset in the last six months. The mean number of sessions attended was 7.9 ( $SD = 3.5$ ).

## Survival Analysis

The second research question aimed to determine the rate of recovery or attainment of CS change in treatment outcome scores among child and adolescent clients of a PTC. A Kaplan-Meier survival analysis procedure was completed to estimate the number of treatment sessions needed until a client met criteria for CS change while allowing for censored cases, or cases in which CS change was not demonstrated during the course of treatment (e.g., premature termination cases or cases in which clients did not ever meet criteria for CS change). A number of assumptions were present in the current procedure, namely that calculated probabilities for CS change outcomes depend solely on passing of time and not other variables as well as the assumption that clients who enter treatment at different times will behave similarly. These assumptions were present to some degree in the current analysis as all clients who attained CS change were assumed to have done so primarily as a result of time in therapy as opposed to other possible factors.

A survival analysis of clients who demonstrated CS change on the Y-OQ is presented in Table 7. In this survival analysis, the time variable was coded as number of treatment sessions and the status variable was meeting criteria for CS change. Therefore, in the analyses that follow, clients who demonstrated CS change attained the status variable of interest and clients who have not yet met criteria for CS change are indicated by the number surviving at each interval. There were 129 censored cases, with 40 clients meeting criteria for CS change during treatment. In Table 7, the cumulative CS probability score reflects the cumulative probability of clients' attaining CS change by

Table 7

*Survival Analysis of Clients Who Reached CS Change on the Y-OQ  
2.01*

Sessions attended	No. CS	Cum. CS probability
2	1	0.01
3	5	0.04
4	7	0.09
5	5	0.13
6	1	0.14
7	2	0.16
8	4	0.21
9	3	0.25
10	0	0.25
11	3	0.30
12	3	0.36
13	0	0.36
14	2	0.42
15	1	0.45
16	0	0.45
17	0	0.45
18	1	0.51
19	1	0.57
20	0	0.57
21	0	0.57
22	0	0.57
23	0	0.57
24	0	0.57
25	1	0.66
Total censored: 129 (76.3%)		Total attaining CS: 40 (23.7%)
Mean time to CS: 26.24 (3.59)		Median time to CS: 18 (2.71)

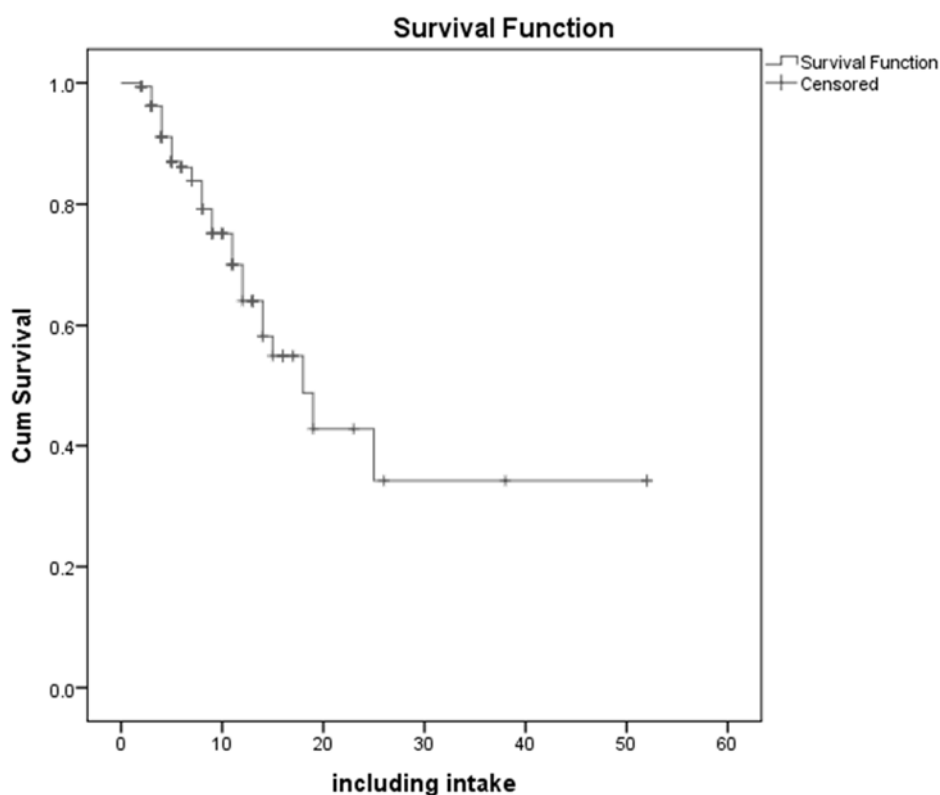
*Note.* Standard error for mean and median estimates are provided in parenthesis.  
*N* = 40.

the number of sessions received.

The minimum number of sessions necessary for clients to achieve CS change was 2, and all clients in the sample who ultimately met criteria for CS change did so by 25 sessions. The current findings suggest that 25% of clients would be expected to meet

criteria for CS change by the end of session 9, 50% would be expected to demonstrate CS change by session 18, and 66% would be expected to reach CS change criteria by session 25. The mean estimate for the number of treatment sessions to reach CS change criteria was 26.24 (standard error = 3.59) and the median estimate was 18 (standard error = 2.71). This information suggests that for clients who ultimately met criteria for CS change, half took 18 sessions to do so. A graph of cumulative CS probability of survival data from these analyses is depicted in Figure 1.

An additional survival analysis examining the rate of attainment of either CS change and/or RI on the Y-OQ was also completed and the results are provided in Table 8. The minimum number of sessions necessary for clients to achieve CS change and/or RI



*Figure 1.* A graphical representation of cumulative probability of attaining CS change by session received.

Table 8

*Survival Analysis of Clients Who Reached CS Change and/or RI on the Y-OQ*

Sessions attended	No. CS/RI	Cum. CS/RI probability
2	5	0.03
3	12	0.10
4	13	0.19
5	11	0.27
6	13	0.35
7	1	0.38
8	5	0.43
9	6	0.49
10	4	0.53
11	7	0.60
12	3	0.64
13	4	0.68
14	2	0.71
15	2	0.75
16	3	0.79
17	1	0.81
18	1	0.83
19	2	0.87
20	0	0.87
21	0	0.87
22	0	0.87
23	1	0.89
24	0	0.89
25	1	0.92
Total Censored: 72 (42.6%)		Total attaining RI: 97 (57.4%)
Mean time to RI: 13.4 (1.5)		Median time to RI: 10 (0.78)

*Note.* Standard error for mean and median estimates are provided in parenthesis.

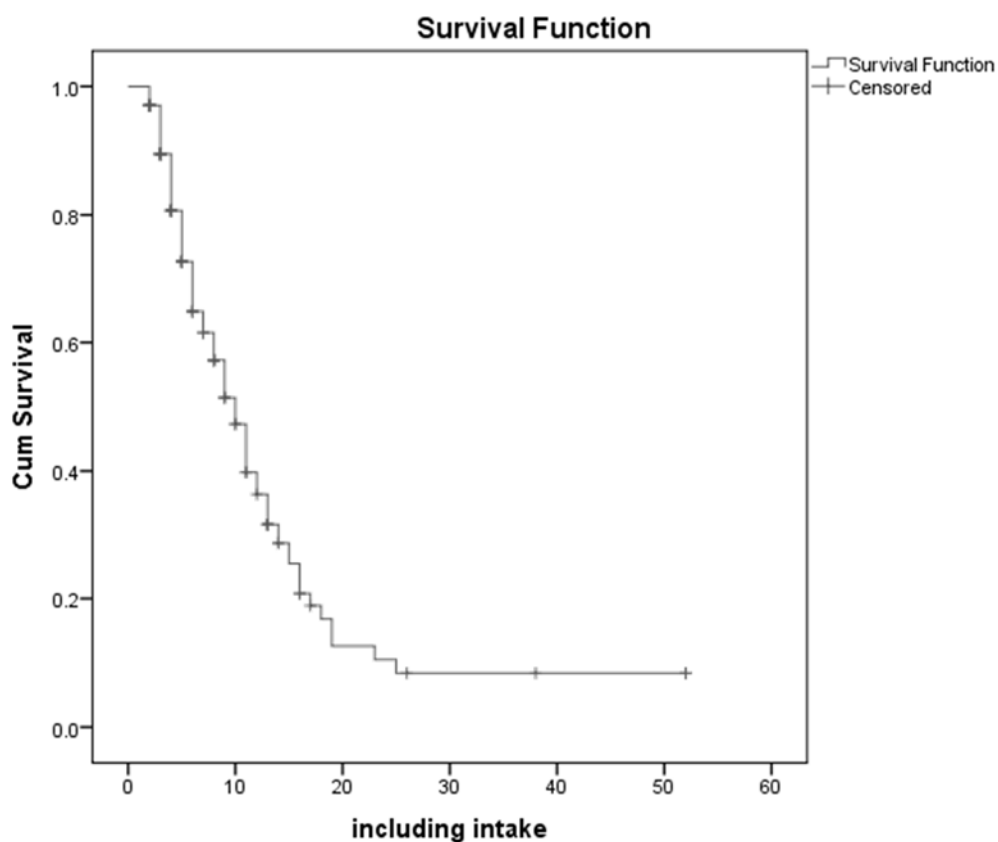
( $N = 97$ ).

was 2, and all clients in the sample who ultimately met criteria for CS change and/or RI did so by 25 sessions. The current findings suggest that 25% of clients would be expected to meet criteria for CS change/RI by the end of session 5, 50% would be expected to demonstrate CS change/RI by session 10, and 75% would be expected to reach CS

change/RI criteria by session 15.

The mean estimate for number of treatment sessions to reach CS change and/or RI criteria was 13.4 (standard error = 1.5) and the median estimate was 10 (standard error = 0.78), suggesting that for clients who ultimately met criteria for CS and/or RI change, half took 10 sessions to do so. A graph of cumulative CS/RI probability of survival data from these analyses is depicted in Figure 2.

Given the employed operational definition of CS change on the Y-OQ 2.01, only children and adolescents who began treatment with a Y-OQ Total Score that was above



*Figure 2.* A graphical representation of cumulative probability of attaining CS change and/or RI by session received.

the clinical cutoff were eligible to meet criteria for CS change. As such, of the 169 included in the sample, only 129 had an initial Y-OQ Total Score that was at or above the clinical cutoff value of 46. As a result, only these 129 clients were eligible to demonstrate a clinically significant change in scores. Relatedly, at the termination of treatment, only 88 clients had scores at or above the clinical cutoff and as a result it would be impossible for these 88 clients to demonstrate a clinically significant change in scores due to the requirement that a client's scores must start above the cutoff and end below the cutoff.

A brief analysis of change in outcomes by change category is outlined in Table 9 for clients who started above the clinical cutoff and for those who did not.

### Pearson Correlations

The final aim of the current study was to identify any factors associated with CS change, RI, no change, or deterioration. This was evaluated by calculating Pearson correlation coefficients for various coded factors (e.g., therapeutic, therapist-oriented, preexisting, and demographic) and the Y-OQ change amount for clients who attained CS

Table 9

#### *Change Category Percentages for Clients Who Started Above or Below Clinical Cutoff*

Variable	Clients with initial total score above cutoff ( $N = 129$ )		Clients with initial total score below cutoff ( $N = 40$ )	
	$n$	%	$n$	%
CS change	40	31	NA	NA
Reliable improvement	38	29.5	19	47.5
No change	43	33.3	19	47.5
Deterioration	8	6.2	2	5.0

change ( $n = 40$ ), reliable improvement ( $n = 57$ ), CS change and/or RI change ( $n = 97$ ), no change ( $n = 62$ ), deterioration ( $n = 10$ ), or no change and/or deterioration ( $n = 72$ ). Table 11 provides a full review of this correlation data by change outcome grouping. The change amount variable was calculated based on the difference in a child or adolescent's Y-OQ score on the initial Y-OQ assessment and the final Y-OQ.

In addition, distribution data for amount of change on the Y-OQ from initial to final assessment was normally distributed for clients who attained CS change, no change, and deterioration. The change amount for clients who demonstrated RI was positively skewed due to one outlier. The value of the outlier is accurate. A full review of change amount distribution data is provided in Table 10.

When the outlier was removed from the data set and distribution analyses were run a second time, the distribution for RI became normal (see Table 11). Given that the outlier is a true and valid value, is only several standard deviations from the mean, and that when removed the distribution became appropriately normally distributed, the current findings will include all data points.

Table 10

*Change Amount Distribution Data by Change Category with All Data Points Included*

Variable	CS change	Reliable improvement	No change/deterioration
Mean	45.20	25.25	-2.85
Standard deviation	21.32	9.93	10.24
Minimum	16	13	-29
Maximum	106	61	13
Kurtosis	0.45 ( $SE = 0.73$ )	2.27 ( $SE = 0.62$ )	-0.29 ( $SE = 0.56$ )
Skewness	0.84 ( $SE = 0.37$ )	1.37 ( $SE = 0.32$ )	-0.61 ( $SE = 0.28$ )



Table 11

*Reliable Improvement Change Amount Distribution  
Data with One Outlier Removed*

Variable	Reliable improvement
Mean	24.61
Standard deviation	8.76
Minimum	13
Maximum	50
Kurtosis	0.65 ( $SE = 0.63$ )
Skewness	0.98 ( $SE = 0.32$ )

A review of all correlation data across treatment outcome groups is provided in Table 12. Three variables were not included in the table, including mother's employment status, father's employment status, and therapist having previously obtained a clinical master's degree. These three variables were not included in the table as Pearson correlation coefficients were unable to be computed for all three across all subgroups due to at least one of the variables being constant. In addition, there are several variables, which are included in the table that failed to yield a correlation coefficient for one or more subgroups due to at least one of the variables being constant. In such cases, a dash (-) signifies the inability to compute the coefficient for that particular variable and treatment outcome group. Also, a number of variables that were originally coded were excluded from the analyses due to a significant amount of missing cases initially (e.g., religious orientation, household income, etc.). The resulting small sample size for these variables was very limited and as a result they were not included in the correlation analyses. Additionally, when interpreting correlation results, some correlation cases consisted of very low sample sizes. It was decided that a sample sizes less than 10 would

Table 12

## Pearson's Correlational Data Organized by Change Outcome

Variable	How variable was coded		CS change (n = 40)		Reliable improvement (n = 57)		No change (n = 62)		Deterioration (n = 10)		CS change and/or reliable improvement (n = 97)		No change and/or deterioration (n = 72)	
	r; n	p	r; n	p	r; n	p	r; n	p	r; n	p	r; n	p	r; n	p
Gender	-0.14; 40	.362	.03; 57	.775	-0.14; 62	.257	.52; 10	.122	-0.09; 97	.347	-0.11; 72	.359		
Age	.22; 40	.167	-0.01; 57	.918	-0.11; 62	.394	.16; 10	.641	.20; 97	.042*	-0.14; 72	.215		
Session cost	.04; 38	.778	.02; 54	.850	.25; 61	.052	-0.16; 9	.664	.02; 92	.850	.31; 70	.009**		
Parental marriage status	-0.05; 11	.867	.49; 29	.007**	-0.08; 21	.723	-0.23; 4	.762	.31; 40	.05*	.10; 25	.634		
Stressor/conflict present	-0.04; 16	.860	-0.17; 25	.398	-0.06; 27	.741	-	-	-0.12; 41	.449	-0.25; 34	.138		
History of developmental delay	-0.29; 33	.092	.07; 55	.602	-0.17; 51	.233	.27; 10	.447	-0.12; 88	.261	-0.16; 61	.211		
Medical condition/illness	-0.01; 34	.948	.09; 47	.532	-0.27; 48	.057	.28; 8	.498	.05; 81	.621	-0.37; 56	.005**		
Substance use	-0.97; 3	.154	-	-	-	-	-	-	-0.86; 4	.135	-	-		
Medication use	.15; 25	.475	.32; 41	.037*	-0.09; 42	.534	.35; 6	.492	.21; 66	.077	-0.21; 48	.145		
Prior mental health	.35; 36	.032*	.01; 49	.943	.00; 57	.996	-0.03; 8	.936	.21; 85	.048*	.01; 65	.918		
Past abuse	-0.18; 4	.814	.28; 7	.537	-0.01; 7	.970	-	-	.03; 11	.920	-0.15; 8	.711		
Suicidal ideation	.26; 8	.532	-	-	-0.46; 5	.430	1.00; 2	0.0**	.14; 9	.716	-0.23; 7	.612		

(table continues)

Variable	How variable was coded	CS change (n = 40)		Reliable improvement (n = 57)		No change (n = 62)		Deterioration (n = 10)		CS change and/or reliable improvement (n = 97)		No change and/or deterioration (n = 72)	
		r; n	p	r; n	p	r; n	p	r; n	p	r; n	p	r; n	p
Problem length	0 = < 6 months 1 = over 6 months	.06; 27	.751	-.39; 34	.022*	-.06; 42	.692	-.20; 9	.603	-.13; 61	.313	-.19; 51	.161
Treatment length	0 = < 6 months 1 = over 6 months	.15; 40	.339	-.18; 57	.160	-.05; 62	.689	-.20; 10	.565	.00; 97	.939	.02; 72	.859
Father attended 1 session minimum	0 = no 1 = yes	-.13; 40	.408	.19; 57	.142	.04; 62	.722	-.07; 10	.839	.05; 97	.579	-.06; 72	.614
Father attended majority	0 = no 1 = yes	-.07; 40	.663	.16; 57	.221	.15; 62	.242	.46; 10	.173	-.00; 97	.934	.15; 72	.184
Father at all sessions	0 = no 1 = yes	-.27; 40	.093	.17; 57	.204	.18; 62	.149	.46; 10	.173	-.10; 97	.291	.14; 72	.229
Both caregivers attended majority of sessions	0 = no 1 = yes	-.04; 40	.792	.14; 57	.295	.17; 62	.172	.46; 10	.173	-.00; 97	.941	.17; 72	.144
Other caregiver attended majority	0 = no 1 = yes	-	-	-	-	.06; 6	.896	-	-	-	-	.06; 6	.896
Significant BASC score	0 = no 1 = yes	-	-	-	-	-.19; 5	.759	-	-	-	-	-.19; 5	.759
Significant CBCL score	0 = no 1 = yes	.11; 25	.589	.08; 31	.635	-.22; 44	.139	-	-	.15; 56	.256	-.28; 51	.046*
Termination type	0 = planned 1 = unplanned	.03; 40	.818	.16; 57	.217	-.14; 62	.273	.03; 10	.924	.02; 97	.830	-.15; 72	.184
Number of sessions	Number attended	.35; 40	.026*	-.06; 57	.625	-.10; 62	.424	-.18; 10	.608	.16; 97	.104	-.05; 72	.677
Therapist gender	0 = male 1 = female	.12; 40	.448	-.05; 57	.704	.01; 62	.900	-.15; 10	.667	.07; 97	.453	-.18; 72	.119
Therapist level of training	0 = in first 2 years 1 = over 2 years	-.03; 40	.852	.06; 57	.641	-.14; 62	.258	.29; 10	.405	.00; 97	.953	-.04; 72	.686

Note. Asterisks indicate statistical significance. A “-” indicates that a correlation coefficient could not be computed because at least one of the variables was constant.

\*  $p < .05$

\*\*  $p < .01$

not be interpreted due to concerns regarding validity of results with such small sample sizes and the appropriateness of interpretation of such results. For example, a correlation with an  $n = 2$  was observed between the deterioration subgroup and suicidal ideation at intake. Given the extremely limited small sample size in this instance, it was concluded it would be inappropriate to interpret it as a finding in the current study.

For clients who met criteria for CS change during the course of treatment, previous psychological services and number of sessions attended were associated with amount of change on the Y-OQ. Client participation in prior mental health services and attendance at more treatment sessions was associated with greater improvement on the Y-OQ. A moderate positive relationship was found between prior mental health services and CS change ( $r = .359, p < .05, n = 36$ ), indicating that the frequency of clients attaining CS change increases for clients who had engaged in prior psychological services. A moderate positive relationship was found between number of sessions attended and CS change ( $r = .351, p < .05, n = 40$ ), indicating that the frequency of clients attaining CS change increases as clients attended more treatment sessions.

For clients who met criteria for RI, parental marital status, use of psychoactive medication, and length of the presenting problem were statistically significant in association with total change amount on the Y-OQ. A strong positive relationship was found between parent marital status and reliable improvement ( $r = .493, p < .01, n = 29$ ), suggesting the frequency of clients meeting criteria for reliable improvement increases for clients whose parents were married. Additionally, a moderate positive relationship was found between medication use and reliable improvement in Y-OQ scores ( $r = .327, p$

< .05,  $n = 41$ ), indicating that the frequency of clients meeting criteria for RI increases for clients who use psychoactive medication. Lastly, a moderate negative correlation was found between length of the presenting problem and RI ( $r = -.392, p < .05, n = 34$ ), suggesting that the frequency of clients meeting criteria for RI increases for clients with shorter duration of symptoms of the presenting problem.

In addition to assessment of CS change and RI groups individually, correlational data was conducted for the groups combined, meaning clients who reliably improved and/or met criteria for CS change during treatment. For clients who improved, the client's age, parent marital status, and prior psychological services were statistically significant in relation to change amount on the Y-OQ. Specifically, a weak positive relationship was found between client age and RI/CS change ( $r = .207, p < .05, n = 97$ ), suggesting that the frequency of clients attaining CS change or RI increases as the sample becomes older.

A moderate positive relationship was observed between parent marital status and RI/CS change ( $r = .312, p = .05, n = 40$ ), indicating the frequency of clients attaining CS change and/or RI increases for clients whose parents are married. And finally, a weak positive correlation between prior mental health services and RI or CS change outcome was observed ( $r = .215, p < .05, n = 85$ ), indicating that the frequency of clients meeting criteria for CS change or RI increases for clients who had prior psychological services.

Correlational data was also evaluated for clients who did not demonstrate a significant change in scores or who deteriorated throughout the course of treatment. No statistically significant correlations were observed between any of the variables included and total change amount on the Y-OQ for the no change group or the deterioration group.

In addition to evaluation of deterioration and no change in outcomes alone, correlational data for these two subgroups combined was also conducted. For clients who did not significantly improve or worsened during the course of treatment, session cost, client health condition/illness, and a significant score on the CBCL were statistically significant in relation to poor or non-beneficial outcomes. A moderate positive relationship was observed between session cost and no change or deterioration ( $r = .311$ ,  $p < .01$ ,  $n = 70$ ), suggesting that as the cost of session increases the frequency of no change or deterioration in scores increases. Additionally, a moderate negative relationship was found between client health condition and nonbeneficial outcomes ( $r = -.370$ ,  $p < .01$ ,  $n = 56$ ), indicating the frequency of deterioration or no change in scores decreases for clients with a significant health condition. Also, a weak negative relationship was observed between parent-reported clinically significant scores on the CBCL and non-beneficial outcomes ( $r = -.28$ ,  $p < .05$ ,  $n = 51$ ), indicating the frequency of non-beneficial outcomes decreases for clients with higher scores on the CBCL at intake.

## CHAPTER V

### DISCUSSION

#### Percentage of Clients Meeting Change Outcomes

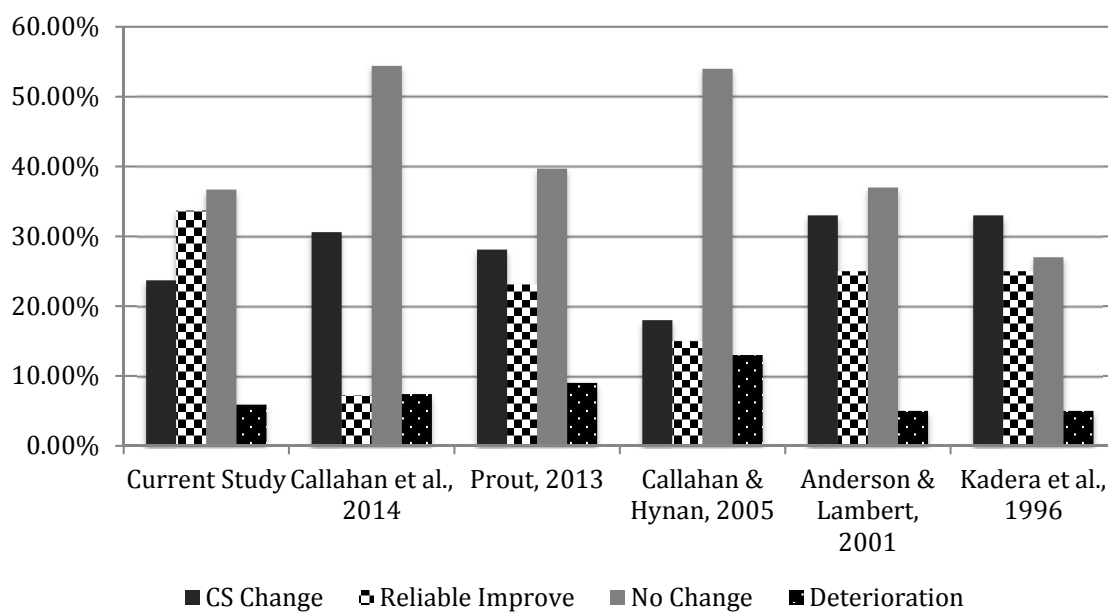
##### Review of Current Findings

The current study found that over half of the sample (57.4%) reliably improved or demonstrated CS change throughout treatment. More specifically, 23.7% of clients met criteria for CS change, 33.7% met criteria for RI, 36.7% demonstrated no significant or meaningful change, and 5.9% deteriorated. Given the employed operational definition of CS change on the Y-OQ 2.01, only children and adolescents who began treatment with a Y-OQ Total Score that was above the clinical cutoff were eligible to meet criteria for CS change. As such, of the 169 included in the sample, only 129 had an initial Y-OQ Total Score that was at or above the clinical cutoff value of 46. As a result, only these 129 clients were eligible to demonstrate a clinically significant change in scores. Relatedly, at the termination of treatment, only 88 clients had scores at or above the clinical cutoff and as a result it would be impossible for these 88 clients to demonstrate a clinically significant change in scores due to the requirement that a client's scores must start above the cutoff and end below the cutoff.

A brief analysis of change in outcomes by change category was outlined earlier in Table 9 for clients who started above the clinical cutoff and for those who did not.

### Current Findings in Comparison to Other Research at PTCs.

The current findings are first compared to research with adult clients in PTC settings and then to research with youth populations seen at various nontraining settings. In comparing current findings to research with adult clients of PTCs, it is important to recognize that although the population investigated is different (adults as opposed to youth clients), the setting of outpatient psychotherapy in a training setting, specifically the PTC setting, is consistent across the current study and the comparison studies discussed. Overall, the findings in the current study are largely comparable to findings with adult clients seen at PTCs. Figure 3 provides a comparison chart for mean percentage of clients who met criteria for each outcome group across various adult PTC settings and the current study. The comparison data was taken from findings reported in



*Figure 3.* A graphical comparison of percentage of clients in outcome subgroups in the current study and across studies at PTCs with adult clients.



previous research at PTCs with adult clients, including studies by Anderson and Lambert (2001), Callahan et al. (2014); Callahan and Hynan (2005), Kadera et al. (1996), and K. K. Prout (2013).

The percentage of clients who demonstrated CS change in the current study was 23.7%, which falls slightly below the mean CS change percentage of 28.54% across the included comparison studies with adults. The percentage of clients demonstrating RI in the current study (33.7%) was greater than the mean across the included comparison studies with adults (19.06%). Additionally, the mean percentage of clients demonstrating no change for the comparison studies selected was 42.42%, which is slightly higher than 36.7% of clients demonstrating no change in the current study. Finally, it was observed that 5.9% of clients deteriorated in the current study compared to a mean of 7.88% of clients who deteriorated across the comparison studies.

Overall, the current study reports similar percentages of clients in each change outcome subgroup, with the proportion of clients demonstrating CS change being slightly lower when compared to the mean percentage of CS change clients in studies with adults. However, the percentage of clients demonstrating RI, no change, and deterioration are slightly more favorable compared to the mean rates in the adult comparison sample utilized (e.g., higher rates of RI and lower rates of no change and deterioration in the current study compared to the means across other studies).

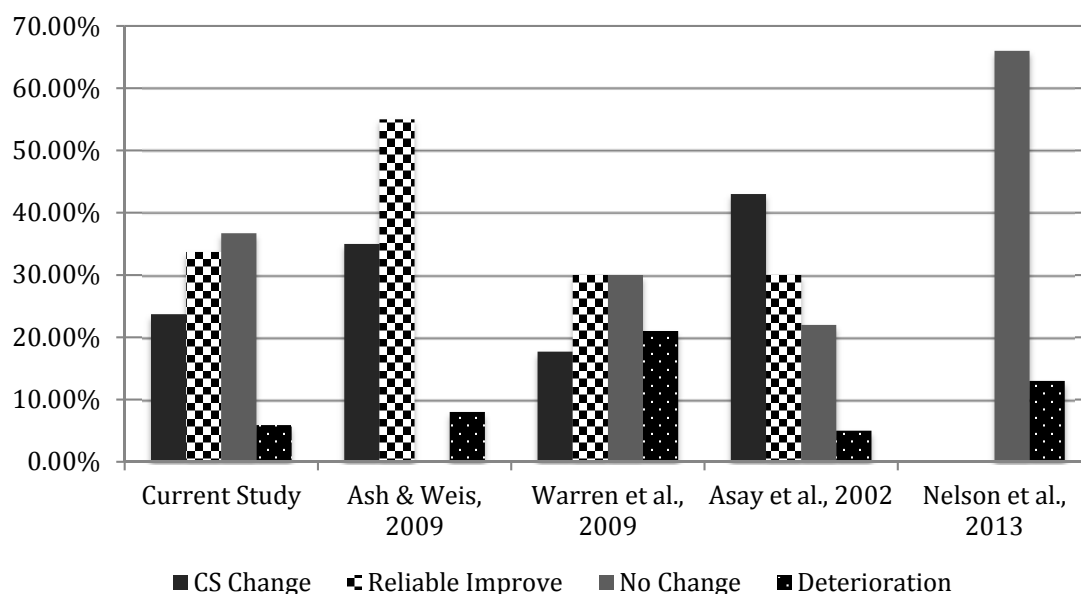
### **Current Findings in Comparison to Other Research at non-PTC settings**

While the current study yields comparable findings to those observed in adult

PTC outcome research, the question remains how current findings compare to research with children and adolescents. Unfortunately, there is no research looking at percentage of clients obtaining CS change, RI, no change, and deterioration outcomes in PTC settings specifically with youth populations. As a result, the current findings are compared to existing research on children and adolescent outpatient psychotherapy outcomes using the Y-OQ in various nontraining settings (e.g., private practice, healthcare).

Overall, current data was again largely comparable to research with youth populations in nontraining settings, with the percentage of clients meeting criteria for CS change, RI, no change, and deterioration in the current study being slightly less than the means calculated across a group of four comparison studies (Asay et al., 2002; Ash & Weis, 2009; Nelson et al., 2013; Warren et al., 2009). Approximately 23% of clients met criteria for CS change in the current study compared to a mean of 31.9% in the comparison studies used. Similarly, the current study found that 33.7% of clients demonstrated RI and 36.7% demonstrated no change at all, which were both slightly lower percentages than the means of 38.3% of clients attaining RI and 39.3% demonstrating no change found across other studies used for comparison. Lastly, the current study found that 5.9% of the sample deteriorated, which is lower than the mean of 11.75% calculated from the selected comparison studies with children and adolescents. Figure 4 provides a graphical representation of this comparison data.

In sum, the current findings indicate that the majority of child and adolescent clients seen at an outpatient graduate-level training clinic experienced reliable



*Figure 4.* A graphical comparison of percentage of clients in outcome subgroups in the current study and across studies in various nontraining settings with youth clients.

improvement in symptoms after participating in psychotherapy. Furthermore, treatment outcomes for youth clients seen at a PTC are reasonably analogous to adult clients seen at PTCs as well as youth populations seen across nontraining settings. The findings suggest that outpatient psychotherapy services provided by graduate student therapists-in-training at PTCs are a potentially beneficial treatment resource of youth populations with a variety of presenting concerns.

### Survival Analysis Data

#### Review of Current Findings

The current study conducted two survival analyses aimed to determine the number of sessions required for 50% of clients to demonstrate CS change as well as the

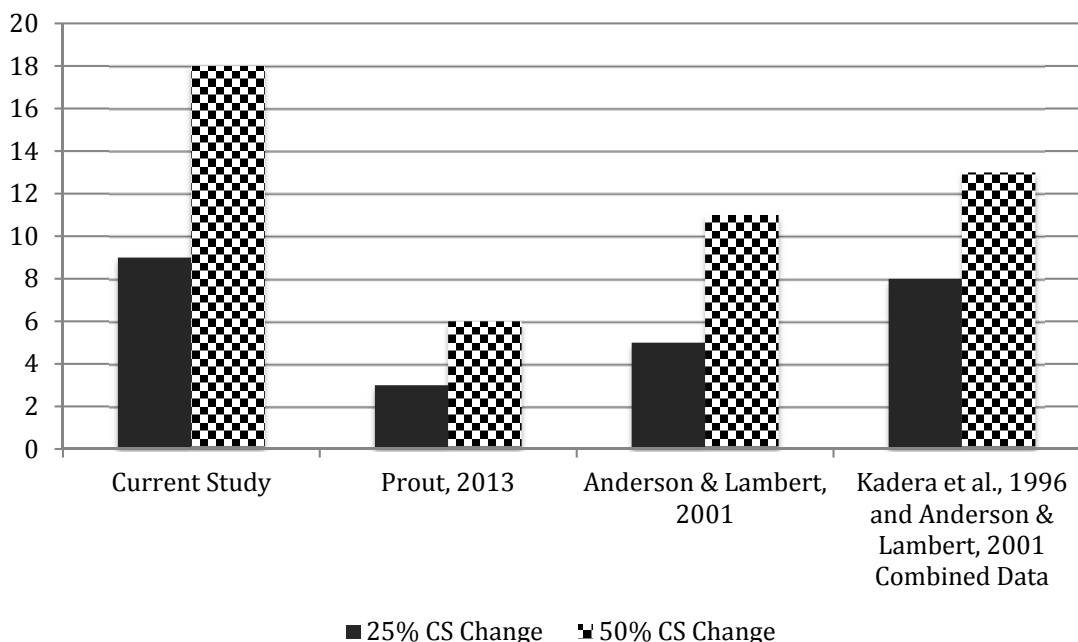
number of sessions required for 50% of clients to demonstrate CS change and/or RI during the course of outpatient psychotherapy. In terms of clients demonstrating CS change only, the median effective dose was 18 treatment sessions. Furthermore, findings indicate that 25% of clients were estimated to demonstrate CS change by 9 sessions, 50% were estimated to demonstrate CS change by 18 sessions, and 66% were estimated to demonstrate CS change by 25 sessions.

The second survival analysis examined the rate of attainment of either CS change and/or RI. The median effective dose was 10 treatment sessions. The findings indicate that 25% of clients were estimated to demonstrate CS change/RI by session 5, 50% were estimated to demonstrate CS change/RI by session 10, and 75% were estimated to demonstrate CS change/RI by session 15.

### **Current Findings in Comparison to Research at PTCs**

Multiple studies, including investigations by Anderson and Lambert (2001), Callahan and Hynan (2005), Kaderal et al., (1996), and K. K. Prout (2013) have examined adult treatment outcomes at PTCs with at times similar and at times divergent results. Specifically, in comparing the current findings with other research at adult PTCs who have examined the does-response relationship in relation to CS change outcomes, the current findings report more sessions are required for 25% and 50% of the sample to attain CS change than comparison studies included (Anderson & Lambert, 2001; Kadera et al., 1996; K. K. Prout, 2013). For example, the current findings suggest 25% of clients would demonstrate CS change by session 9, compared to previous findings with adult

outcomes at PTC which suggest 25% of clients would attain CS change by session 3 (K. K. Prout, 2013), session 5 (Anderson & Lambert, 2001), or session 8 when using the combined datasets of Anderson and Lambert (2001) and Kadera et al. (1996). Similarly, the current findings indicate 50% of youth clients would demonstrate CS change by session 18, compared to adult outcomes in PTCs which suggest 50% of clients attain CS change by session 6 (K. K. Prout, 2013), session 11 (Anderson & Lambert, 2001), or session 13 when using the combined Kadera et al. (1996) and Anderson and Lambert (2001) data. Figure 5 provides a comparison of CS change outcomes for the current study and outcomes with adults at PTCs. Overall, the current study estimated that a greater number of sessions were needed for 25% and 50% of youth clients to demonstrate CS change when compared to adult outcomes at PTCs.



*Figure 5.* A graphical comparison of CS change estimates in the current study and across studies in various PTCs with adult clients.

In addition to research on the dose-response relationship and CS change outcomes, previous research at PTCs has examined the dose-response relationship in therapy with adults with reliable improvement outcomes as well. The current findings are very similar to findings reported by Anderson and Lambert (2001) using the combined data set with prior research by Kadera et al. (1996). Specifically, current findings were that 25% of youth clients would meet criteria for RI by session 5, which is identical to the finding by Anderson and Lambert. Also, the current findings suggest that 50% of youth clients would meet criteria for RI by session 10, compared to the nine sessions estimated for 50% of adult clients to demonstrate RI in the combined data set analyzed by Anderson and Lambert. Additionally, the current study estimated that 75% of clients would demonstrate RI by session 15, which is slightly less than the 17 sessions estimated by Anderson & Lambert (2001).

Callahan and Hynan (2005) also examined the dose-response relationship and adult RI outcomes at PTCs. Overall, the current findings suggest fewer sessions are needed in order for clients to meet criteria for RI. For example, Callahan and Hynan reported that 8% of clients would demonstrate RI (including any instances of CS change as well) by session 8, 31% would demonstrate RI by session 26, and 38% would demonstrate RI by session 52. This is a striking distinction from current findings, which suggest that 75% of all youth clients seen would be estimated to demonstrate RI by 15 sessions.

In sum, the current findings were identical or slightly less favorable than those reported by Anderson and Lambert (2001) and substantially less favorable than those

reported by Callahan & Hynan (2005), suggesting the current study found that fewer sessions were needed to meet criteria for RI in children and adolescents. While comparing current findings to research with adults in similar settings is helpful, it is also necessary to examine the current data in the context of child and adolescent treatment outcomes specifically.

### **Current Findings in Comparison to Other Research at Nontraining Settings**

Prior research on the dose-response relationship and youth outcomes throughout treatment are limited and somewhat mixed. In fact, multiple studies have failed to observe a statistically significant dose-response relationship for youth populations at all (Bickman et al., 2002; Casey & Berman, 1985), while others have observed a dose-response relationship (Asay et al., 2002). While research on psychotherapy dose-response in child and adolescent populations specifically is somewhat limited, prior research by Asay et al. can be used as a means of comparison for the current findings. Asay et al. is an appropriate means for comparison as this study examined youth outcomes (e.g., dose-response and median effective dose) in a private practice clinic while using the Y-OQ as an outcome measure.

In terms of CS change outcomes exclusively; the current findings are relatively comparable to those reported by Asay and colleagues (2002). For instance, current findings were that 25% of clients would demonstrate CS change by session 9, compared to session 7 as reported by Asay et al. Similarly, Asay et al. reported that by 14 sessions, 50% of clients would be expected to demonstrate CS change which is slightly less than

the 18 sessions estimated in the current study. Overall, the dose-response relationship between CS change on the Y-OQ and youth clients' participation in psychotherapy was relatively similar, with the current study estimating slightly more sessions needed for 25% and 50% of clients to reach CS change criteria.

When comparing current findings on the dose-response for RI outcomes more broadly, the current findings are again moderately commensurate to those reported by Asay et al (2002). The current findings suggest that 25% of clients will meet criteria for RI by session 5, compared to session 3 as observed by Asay et al. Similarly, the current findings indicate that 50% of clients would attain RI by session 10 and 75% by session 15, compared to Asay et al.'s findings that 50% would attain RI by session 7 and 75% by session 12. Overall, the current findings report a slightly greater number of sessions are required for clients to meet criteria for both CS change and reliable improvement.

In sum, the current study has found that slightly more sessions are needed to achieve CS change or RI compared to findings in nontraining settings and that more sessions are needed to attain CS change compared to adult outcome studies, while the same amount of sessions or less were observed compared to adult outcome studies at PTCs. These findings also suggest that relatively short-term treatment (10 sessions) can result in improvement and reliable change for many children and adolescents seeking outpatient psychotherapy at a training setting. Such information is useful in guiding student therapist training (e.g., treatment planning) as well as clinic policy (e.g., monitoring client progress and evaluating outcomes at specific time points during treatment).



It is possible that certain inconsistencies in findings could be due to varying methods of data collection (e.g., different treatment populations, different developmental populations, different assessment measures, varying operational definitions of CS change, different treatment settings) as well as differences in data analysis. For example, time of CS change coding could impact results. In the current study, the initial and final OQ were used to determine if and when clients met criteria for CS change, RI, no change, or deterioration. This helped to determine what outcome clients had obtained at the termination of treatment. This may differ from other studies who might have coded the earliest occurrence or session number that a client met CS change or RI criteria. Additionally, it is probable that client differences may account for differences in survival analysis findings (e.g., client severity or distress level at intake can impact CS change outcomes as only clients who begin treatment in the dysfunctional range can attain CS change).

### **Factors Associated with Change Outcomes**

#### **Nonsignificant Associations**

No significant correlations were found between various treatment outcomes and a number of contextual factors, including client gender, presence of a stressor or conflict, and therapist level of training. These findings are at times both similar and in contrast with findings of previous studies, including investigations which found a significant relationship between RI and client gender (Ash & Weis, 2009), a significant relationship between level of family conflict and RI (Kolko et al., 2011), and a significant relationship

between client ethnicity and no change in treatment outcomes (Gordon et al., 2012). However, several nonsignificant findings echoed previous research findings, including no significant correlation between treatment outcomes and client gender (Gordon et al., 2012, Nilson et al., 2013) or treatment provider degree (Gordon et al., 2012). Interestingly, the variables of father or other-caregiver involvement and supplemental assessment data (BASC and CBCL scores) were not significantly associated with any treatment outcomes.

### **Factors Associated with Improved Outcomes**

A number of significant relationships were observed between CS change and/or RI and various variables, including client having engaged in prior psychological services, client attendance at a greater number of treatment sessions, client use of psychoactive prescription medication, client report of shorter duration of presenting symptoms, client having married parents, and client maturity. Each of these findings is discussed individually.

**Previous mental health services.** Interestingly, this finding differs from prior research. For example, Gordon et al. (2012) examined prior psychiatric hospitalization and found it was not significantly related to any type of treatment outcome in youth clients seen at an outpatient psychiatric clinic. Also, Warren et al. (2009) investigated prior treatment as a predictor variable for treatment outcomes and found that the two were not significantly related; however, the authors noted that prior treatment was nearly significant as a predictor. Despite the discrepancy from other research findings with youth client treatment outcomes, the current data suggest that previous mental health

services are positively related to improved outcomes in a psychotherapy training setting.

As to the clarification of the current findings, the author can only speculate. One hypothesis is that perhaps youth clients who have previously participated in therapy have existing/previously-learned strategies or coping skills that may help them improve during treatment. Another possible explanation is that youth and families who have previously participated in psychological services might have more accurate expectancies for psychotherapy than children or adolescents who are new to psychotherapy. Perhaps this prior experience and expectations for treatment might help youth clients to engage more fully in treatment or favorably adapt their expectations. In fact, a study by Callahan, Aubuchon-Endsley, Borja, and Swift (2009) examined the rate of premature termination in adults seen at a PTC setting based on pre-treatment expectancies and found that client's pretreatment role expectations and pretreatment effectiveness expectancies interacted and accounted for 11% to 14% of the variance in premature termination. Another study by Stewart, Steele, and Roberts (2014) examined adolescents' expectations and perceptions of psychotherapy through the development and evaluation of a standardized measure. Future research on youth psychotherapy outcomes may benefit from examination of client expectations and perceptions and corresponding demographic characteristics (e.g., prior history of mental health services).

**Greater session attendance.** Current finding is similar to that of Kolko et al. (2011), who examined treatment dose (hours in treatment) in relation to therapeutic outcomes and found that clients who received more hours of intervention (CBT specifically) showed greater improvement in overall child health compared to those who

received fewer hours. One possible explanation for this correlation may be that greater time in treatment (more sessions or hours) affords clients more occasions to acquire new coping skills, participate in treatment, make progress toward therapeutic goals, and implement strategies they have learned.

**Use of psychoactive medication.** The current finding aligns with previous research on youth clients in a system of care community, which found that clients who took psychoactive medication demonstrated greater symptom reduction at 6 months than youth not taking medication (Drilea et al., 2013). However, the current finding is dissimilar from that of Gordon et al. (2012) who examined both history of pharmacotherapy and current pharmacotherapy and treatment outcomes in youth clients and found no significant relationship between current pharmacotherapy and outcomes. However, Gordon et al. a significant relationship between deterioration in outcomes and prior psychotropic medication use in youth clients.

**Shorter duration of symptoms.** A survey of previous studies with youth with anxiety and depression reported somewhat mixed findings when compared to the current data (Nilsen et al., 2013). Specifically, of the reviewed anxiety studies, one study examined duration of symptoms as a predictor and found that children with longer duration of anxiety displayed more anxious symptoms after treatment termination (Nauta, Scholing, Emmelkamp, & Minderaa, 2003). Similarly, of the depression and youth outcome studies examined, two studies investigated duration of symptoms and reported nonsignificant findings (Brent et al., 1998; Jayson, Wood, Kroll, Fraser, & Harrington, 1998).

**Married parents' marital status.** The current finding is similar to research data reported by Gordon et al. (2012), which found a statistically significant relationship between married parents and youth client improvement ( $p = 0.001$ ). Possible explanations for the current finding may be that youth clients whose parents are married are not exposed to the additional stress of divorce, separation, or estrangement/loss of a parent. Additionally, another possible explanation is that married parents of youth clients might be better able to support each other, perhaps reducing caregiver burden and increasing implementation of therapeutic strategies, compared to single parent households.

**Older client age.** The correlation between age and improved outcomes is consistent with previous research at outpatient clinical settings (including a university-based research setting) that found client age is predictive of improved treatment outcomes, such that older clients demonstrate greater improvements during the course of treatment (Ash & Weis, 2009; Warren et al., 2009; Weisz et al., 1995). Similar findings have been observed in a meta-analysis of psychotherapy and counseling outcomes in school-based settings, which have found that adolescents show greater improvement than younger children (Baskin et al., 2010). One possible explanation for these findings is that younger children may be less active participants in psychotherapy than older youth (e.g., in terms of self-referral, goal-setting, identifying problems) and consequently may feel less motivated perhaps than older clients who might be more engaged in the process (Weisz, 2004). In fact, one study on minor's participation in consent for psychotherapy found that a minority of youth clients were involved in the decision to begin treatment. Furthermore, only 31% of the sample was considered motivated to begin therapy while

60% reported an interest in starting treatment. Overall, researchers found that the youth client's motivation was significantly positively related to treatment outcomes, suggesting that improved outcomes were observed for youth who are engaged in the decision to start treatment and motivated to begin (Adelman, Boyd, & Taylor, 1984).

However, the current findings are in contrast to other research findings, which found that for youth clients seen in various outpatient settings, client age was not significantly related to treatment outcomes (Gordon et al., 2012; Nilsen et al., 2013). Specifically, Nilson et al. conducted a review of treatment outcome studies for youth with anxiety and depression and found that the majority of studies with anxious youth reported no significant relationship between client age and treatment outcome (two out of 16 included studies reported mixed results; Bodden et al., 2008; Legerstee et al., 2008). Similarly, of the youth with depression studies examined, 60% yielded no significant results for client age as a predictor of treatment outcome (Kolko, Brent, Baugher, Bridge, & Birmaher, 2000; Weersing & Weisz, 2002; Weersing, Iyengar, Kolko, Birmaher, & Brent, 2006). Overall, previous research on client age as a predictor of treatment outcomes is varied and more investigation is needed to better understand the association between client age and CS change or RI outcomes in children and adolescents.

### **Factors Associated with No Change and/or Deterioration**

Session cost, parent score above the cut-off on the CBCL, and existing client health condition were statistically significant in association to non-beneficial outcomes (no change or deterioration). The observed relationship between session cost and non-

beneficial outcomes is interesting; however, in order to clarify this finding further investigation is needed.

Additionally, the finding for client health condition and non-beneficial treatment outcomes contrasts findings reported by Gordon et al. (2012) who examined history of medical problems or conditions as a predictor of youth treatment outcomes and found them to be unrelated. One possible hypothesis is that children and adolescents with an existing medical condition may have more frequent or ongoing contact with health professionals and therefore have access to more resources.

Last, an association between clinically significant scores on the Parent-Report CBCL and nonbeneficial outcomes was observed. Previous research with adult clients at PTCs has found that for clients who enter treatment with higher levels of impairment or greater symptom severity, additional sessions are required before those clients to demonstrate improvement (Anderson & Lambert, 2001). Specifically, Anderson and Lambert found that eight additional treatment sessions were needed for adult clients who began treatment with higher levels of distress on the OQ-45. Another study of adult outcomes at a PTC reported a lagging response curve when examining dose-response outcomes and stated one possible explanation for the finding was the differences in clients across settings (e.g., more or less challenging; Callahan & Hynan, 2005). Therefore, one possible explanation is that client's whose parents reported clinically significant scores on the CBCL may be more challenging in some way, which may impact treatment outcome. For example, the CBCL is a detailed behavior checklist which measures impairment across an array of clinical domains, while the Y-OQ is more

focused on evaluating symptoms of distress more broadly. Perhaps parent report of clinical significance on the CBCL is indicative of clients with a greater range or severity of clinical symptoms that is associated with poorer or nonbeneficial outcomes.

### **Limitations and Implications for Future Directions**

#### **Limitations**

Several limitations were present in the current study. First, the sample diversity of the current study was limited. Specifically, the sample consisted of primarily White clients and nearly half of the sample (44%) presented to therapy with concerns regarding conduct problem behaviors. Additionally, the majority of clients reported no history of developmental delay or significant illness. A sample of therapy clients from diverse racial and ethnic backgrounds, as well as a range of psychopathology presentations and various health needs, would allow for data that is arguably more generalizable for outpatient child psychotherapy clients and which investigates therapeutic outcomes for a multitude of diverse children and adolescents.

A second limitation to the study in addition to diversity of the sample, is the sample size of certain outcome subgroups. The sample size was limited when it came to the calculation of Pearson correlations between various contextual factors and treatment outcomes for specific outcome subgroups, specifically, the deterioration group, which had an *N* of 10. As a result, the correlation observed between deterioration and suicidal ideation must be evaluated with great caution, as the sample size was simply not large enough in that particular instance.



A third limitation to the current study is the sole use of the Y-OQ as the outcome measure to assess change across treatment. The use of one parent-report questionnaire raises the question of possible rater-bias or poor reporting. Interestingly, a study of parent-report for participating versus nonparticipating parents in a parent training intervention for externalizing behaviors found no significant differences between the two parents' reports (Hautmann et al., 2013). Despite this finding, ideally, a myriad of assessments, including parent-report, youth self-report (when appropriate), teacher-report (when appropriate), and behavioral observation would be utilized to evaluate across environments, raters, and various mental health outcomes (e.g., in addition to distress-oriented symptomatology as on the Y-OQ). The current study did examine any available supplemental assessment data (e.g., the BASC-2 or CBCL), which allowed for evaluation of youth across more symptom domains; however, these measures were not administered regularly and routinely in the current study resulting in limited ability to use such measures as primary outcome measures across treatment.

A fourth limitation of the current study was the failure to evaluate client severity on the Y-OQ or client presenting concern/diagnosis and determine how these factors relate to treatment outcomes across psychotherapy. Investigation of these factors specific to client outcomes for youth clients of PTCs would help to identify how findings in PTCs compare to research with children and adolescents in other settings (e.g., studies on treatment outcomes with specific youth populations such as depression or anxiety).

Lastly, the current study employed the Kaplan-Meier survival analysis procedure. While this data-analysis was appropriate for the current study and has been used

previously in similar research investigations on treatment outcomes, there are several assumptions, and therefore limitations, present when employing survival analysis. One such limitation is the definition of the time variable by treatment session instead of weeks in treatment. In the current analyses the number of sessions attended was coded as the time variable; however, it is possible that sessions were not always evenly apart for each client. For example, one client may have attended two sessions weekly across two weeks while another client may have attended two sessions throughout the course of one month. Clarification of the time value so that weeks in treatment and corresponding sessions in treatment were considered would help to address this assumption. Another consideration is that all clients in the current study who met criteria for CS change did so by session 25, while the average number of sessions attended was approximately 8 ( $SD = 7$ ). In this instance, it may be challenging for the survival analysis procedure to compute a model in which the frequency of treatment sessions greatly reduces and becomes more scattered and variable after a set number of attended sessions.

### **Implications of the Current Study**

In sum, current findings suggest that over half of the youth clients seen for outpatient psychotherapy met criteria for reliable improvement at the termination of treatment and that approximately 6% deteriorated. These findings are generally similar to findings on adult treatment outcomes in PTCs and youth treatment outcomes in outpatient psychotherapy. Additionally, current research on the dose-response relationship with youth clients determined the median effective dose for CS change to be 18 sessions and the median effective dose for RI to be 10 sessions. These estimates are at times largely

similar and at times slightly greater than findings observed with adult clients of PTCs and youth clients of general clinic settings. And lastly, research on factors related to reliable improvement or CS change suggest that prior mental health services, number of sessions attended, use of psychoactive medication, length of presenting problem, parent marital status, and client age were found to be statistically significant.

Overall, these findings have multiple implications for PTCs and can serve to inform both clinical service and student therapist training that occurs at PTCs. Firstly, the current findings suggest that PTCs, and specifically graduate-student therapists, are able to provide beneficial and helpful services that are reasonably comparable to outcomes observed in other settings, both training and nontraining. Therefore, any assumption of second-rate therapy services in training clinic setting is not supported by the current data. Through clinical supervision and practica experience, student therapists can deliver valuable and helpful services to youth clients across a variety of ages and presenting concerns. Graduate student therapist training can be informed by the current findings. For example, demographic variables and other preexisting characteristics could be utilized to direct therapist training (e.g., conduct problems as dominant presentation in the clinic). Also, the current data may help promote a better understanding of client change across treatment and factors associated with various treatment outcomes. This knowledge could help to inform clinic procedure, for example, by implementing procedures regarding outcome measurement based on the identified median effective dose and survival analysis data. For example, current data suggests the majority (75%) of children and adolescents demonstrate RI after 15 sessions. This could be used as a benchmark to

inform treatment planning and evaluate treatment progress. Similarly, this could help therapists to promote treatment buy in with clients (e.g., commitment to attend a minimum of 10 sessions as 50% of youth see improvement after 10 sessions). The current data can also be used to inform clinic procedure and policy through the identification of potential risk factors or correlates of various treatment outcomes.

Last, the current study found that slightly over half of the sample (57%) reliably improved throughout the course of treatment and that clinical outcomes for children and adolescent clients of a PTC were relatively similar to those reported in studies at nontraining settings with youth clients. However, the hard truth is that 43% of clients did not improve during treatment. This finding serves as a reality check that there is much room for improvement when it comes to implementing helpful and beneficial services for children and adolescents. As a result, attempts to promote better client care and meaningful services for youth clients through the utilization of the current findings in a PTC along with other research on youth psychotherapy outcomes, evidence-based treatments, dose-response, and clinically significant change could be a positive step towards improvement.

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APPENDICES

Appendix A  
Chart Review Coding Form

## Chart Review Coding Form

<p><b>Sex:</b> F=0, M=1</p> <p><b>Age</b></p> <p><b>Who Attended</b></p> <p><b>Intake:</b> 1=Mom only, 2=Dad only, 3=both, 4=Child only, 5=Unspecified, 6=parent and grandparent/other caretaker, 7=grandparent only, 8=current guardian (not parent or grandparent)</p> <p><b># of sessions each parent attended:</b></p> <p><b>Who was focus of treatment:</b> 1=Child, 2=parents, 3=both</p> <p><b>Ethnicity:</b> 1=White, 2=Black, 3=Asian, 4=Latino, 5=NativeAm, 6=Not Identified, 7=multiracial</p> <p><b>Language Used at Home:</b> 1=English, 2=Spanish</p> <p><b>Parent Employment Status (for each parent):</b> 1=Employed, 2=Unemployed, 3=On Disability, 4=Student, 5=Not Indicated, 6=Retired *If blank, then parent is deceased or absent/no contact</p> <p><b>Family Income Amount</b></p>	<p><b>Session Cost</b></p> <p><b>Parent Martial Status:</b> 1=Married, 2=Divorced, 3=Single, 4=Widowed, 5=Engaged, 6=Divorced and Remarried, 7=unspecified, 8=estranged/no contact</p> <p><b>History of Developmental Delay:</b> 1=Yes, 0=No, 3=unspecified</p> <p><b>Religion:</b> 1=LDS, 2=Catholic, 3=Protestant, 4=Jewish, 5=Not Identified, 6=Buddhist, 7=Agnostic/Atheist</p> <p><b>Current Use of Substances:</b> 1=Yes, 0=No, 3=Unspecified</p> <p><b>Taking Psychoactive Medication:</b> 1=Yes, 0=No, 3=Unspecified</p> <p><b>Medication Category:</b> 1=Antidepressant, 2=Stimulant, 3=Sleep, 4=Pain, 5=Benzo, 6=Not named, 7=Anticonvulsant, 8=Antipsychotic</p> <p><b>Significant Health Condition/Injury:</b> 1=Yes, 0=No, 3=Unspecified</p> <p><b>Recent Stressor/Conflict:</b> 1=Yes, 0=No, 3=Unspecified</p>	<p><b>Previous Psychological Services:</b> 1=Yes, 0=No, 3=Unspecified</p> <p><b>Where/Type:</b> 1=school, 2=hospital, 3=university setting, 4=community MH, 5=unspecified</p> <p><b>When:</b> 0=current, 1=within last 6 months, 2=within last year, 3=within last 5 years, 5=unspecified, 7=&gt;5 years</p> <p><b>Past Abuse:</b> 1=Yes, 0=No, 3=Not Indicated</p> <p><b>Abuse Type:</b> 1=Sexual, 2=Physical, 3=Unspecified</p> <p><b>Suicidal Ideation:</b> 1=Yes, 0=No, 3=Not Indicated</p> <p><b>Presenting Problem:</b> 1=Conduct Problems, 2=Anxiety, 3=Depression, 4=Sleep, 5=Substance Use, 6=ADHD-related, 7=Toileting, 8=Bereavement, 9=Picky Eating, 10=Self-Harm, 14=Academic, 15=Social, 16=hair-pulling, 17=adjustment to significant change, 18=skin-picking</p> <p><b>Length of the Problem:</b> 1=onset in past month, 2=onset in last 6 months, 3=onset in last year, 4=onset before one year prior, 5=unable to determine</p> <p><b>Referral Type:</b> 1=Parent-referred, 2=physician, 3=Friend/family, 4=school, 5=Not Indicated, 6=other MH provider, 7=self, 8=court ordered, 9=speech therapist</p>	<p><b># of Sessions (including intake):</b></p> <p><b>Length of Treatment:</b> 1=less than/equal to 1 month, 2=1-2 mos, 3=2-3 mos, 4=3-4 mos, 5=4-5 mos, 6= 5-6 mos, 7=6 mos-1 year, 8=over 1 year</p> <p><b>Theoretical Orientation Used:</b> 1=Behavioral Strategies, 2=Cog Behavioral/ACT, 3=Psychoeducation, 4=Skills-training (communication; social skills), 5=general support/problem solving, 6=mi</p> <p><b>Termination Type:</b> 1=Failure to reschedule, 2=Planned termination, 3=Client cancelled, not planned</p> <p><b>Therapist Sex:</b> F=0, M=1</p> <p><b>Therapist Ethnicity:</b> 1=White, 2=Black, 3=Asian, 4=Latino, 5=Native Am</p> <p><b>Level of Training:</b> 1=1 year of training or in first year, 2=2 years of training or in second year, 3=3 years of training, 4=4 years of training, 5=5 years of training, 6=6 years of training, 7=7 years of training, 8=8 years of training</p> <p><b>Therapist Last Name</b></p> <p><b>Year Case Seen</b></p> <p><b>Clinical M.A.:</b> 1=yes, 0=no</p> <p><b>Year Therapist Entered the Program</b></p>
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## Appendix B

Clinical Cutoff and Reliable Change Index Values on the Y-OQ 2.01

Clinical Cutoff and Reliable Change Index Values on the Y-OQ 2.01

Y-OQ 2.01 Scale	Clinical Cutoff	RCI
Total Score	46 or greater	13 or greater
Interpersonal Distress	16 or greater	8 or greater
Somatic	5 or greater	5 or greater
Interpersonal Relations	4 or greater	4 or greater
Critical Items	5 or greater	5 or greater
Social Problems	3 or greater	5 or greater
Behavioral Dysfunction	12 or greater	8 or greater



## CURRICULUM VITAE

KERRY K. PROUT

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**EDUCATION**

- |                            |  |
|----------------------------|--|
| Internship<br>2015-Present | Nemours/A. I. duPont Hospital for Children<br>Predoctoral Internship, Integrated Behavioral Health Track (APA Accredited)<br>Training Director: Rochelle Glidden, Psy.D.   |
| Ph.D.<br>2016              | Utah State University<br>Clinical/Counseling/School Psychology (APA Accredited)<br>Dissertation: <i>Psychotherapy outcomes among child and adolescent clients of a graduate-level psychology training clinic.</i><br>Chair: M. Scott DeBerard, Ph.D. |
| M.S.<br>2013               | Utah State University<br>Counseling Psychology<br>Thesis: <i>An investigation of clinically significant change among clients of a doctoral psychology training clinic.</i><br>Chair: M. Scott DeBerard, Ph.D.  |
| B.A.<br>2009               | University of Kansas<br>Psychology – with Honors<br>Undergraduate Honors Thesis: <i>Program evaluation of a pediatric oncology camp for patients and siblings.</i><br>Advisor: Michael C. Roberts, Ph.D.   |

**CLINICAL EXPERIENCE**INTERNSHIP

- 8/15-Present *Psychology Intern, Integrated Behavioral Health Track*  
 Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Rotations:

12 months

*Nemours/duPont Pediatrics at St. Francis, Wilmington, DE*

Provide behavioral consultation services to children and families within a pediatric medical home setting; complete crisis evaluations; complete brief screenings and assessment of common behavioral concerns; provide brief treatment; facilitate and coordinate community referrals; collaborate and consult with pediatricians; assist in development and co-lead a parenting group for children with disruptive behavior.

*Supervisor:* Cheyenne Hughes-Reid, Ph.D.

12 months

*Nemours/duPont Pediatrics at People's Plaza, Newark, DE*

Provide behavioral consultation services to children and families within a pediatric primary care practice; complete brief screenings and assessment; provide brief treatment; collaborate and consult with pediatricians.

*Supervisor:* Roger Harrison, Ph.D.

12 months

*Pediatric Behavioral Sleep Clinic*

Division of Pulmonology

Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Provide brief consultation to children and families during pulmonology appointments; provide brief behavioral and cognitive-behavioral services to children and families with persistent sleep difficulties (e.g., CPAP compliance, bedtime resistance, insomnia); collaborate and consult with pulmonology providers.

*Supervisor:* Johanna Carpenter, Ph.D.

12 months

*Outpatient Clinic*

Division of Behavioral Health

Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Provide outpatient psychotherapy services to youth and families with a range of emotional and psychological concerns, chronic medical conditions, and/or developmental abilities.

*Supervisor:* Emily Bernabe, Ph.D.

6 months

*Autism Behavior Clinic*

Division of Behavioral Health

Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Teach, model, and practice behavior management and functional communication strategies with parents of children with Autism Spectrum

Disorder; receive live supervision during weekly sessions.

*Supervisor:* Emily Bernabe, Ph.D.

6 months

*Parent Conduct Group*

Division of Behavioral Health

Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Co-lead group therapy teaching behavioral parent training strategies to parents of children with disruptive behavior and/or ADHD (two, 8-week parent groups).

*Supervisor:* Roger Harrison, Ph.D.

6 months

*Assessment Clinic*

Division of Behavioral Health

Nemours/A. I. duPont Hospital for Children, Wilmington, DE

Conduct evaluations for early childhood populations presenting with developmental concerns, including diagnostic evaluations of ASD. Administer and interpret a range of evidence-based cognitive, achievement, language, and behavioral assessments in addition to conducting parent feedback conferences and writing integrated assessment reports.

*Supervisors:* Stephanie Chopko, Ph.D. and Laura Dewey, Ph.D.

### CLINICAL PRACTICA

6/12-5/13 &  
6/14-5/15

*Graduate Student Therapist*

Up to Three Early Intervention Program, Logan, UT

Provided behavior modification strategies and support to families of children with developmental delays or disabilities receiving early intervention in-home services. Collaborated with multi-disciplinary providers to address child and family concerns.

*Supervisor:* Gretchen G. Peacock, Ph.D.

8/11-5/12 &  
6/13-5/14  
Logan, UT

*Graduate Student Therapist*

The Center for Persons with Disabilities Clinical Services Division,

Collaborated on an interdisciplinary team, including interdisciplinary team evaluation clinic for Autism Spectrum Disorder. Coordinated and administered comprehensive psychological assessments (developmental, behavioral, psychoeducational, personality, disability); constructed multidisciplinary integrative psychological reports; provided client

feedback; early childhood intervention; coordination of services and treatment facilitation among integrated professional treatment team.  
*Supervisor:* Martin J. Toohill, Ph.D.

9/11-5/12 & 9/13-5/14 *Graduate Student Therapist*  
 Clinical/Counseling Psychology Practicum  
 Utah State University Student Health and Wellness Center, Logan, UT

Provided outpatient brief individual psychotherapy and consultation/liaison clinical services to students at USU with a variety of psychological presentations in a primary care setting. Consulted with primary care providers while working within an integrated health services model. Interventions often aimed to supplement or expand on medical treatment by primary care provider.  
*Supervisor:* M. Scott DeBerard, Ph.D.

1/12-5/13 *Graduate Student Therapist*  
 Clinical Child/Pediatric Psychology Practicum  
 The Budge Clinic Pediatrics at Logan Regional Hospital, Logan, UT

Collaborated with eight referring pediatricians in a primary care pediatric clinic setting. Provided cognitive-behavioral and behavior management interventions to children and adolescents with various behavioral health concerns. Implemented a Preventative Behavioral Parent Training program as part of the universal prevention services available for children ages 3 years and under to address conduct problems, sleep concerns, and picky eating.  
*Supervisor:* Clinton E. Field, Ph.D.

9/11-9/12 *Graduate Student Therapist*  
 USU Psychology Community Clinic Assistantship  
 Cache Valley Cancer Treatment Center, Logan, UT

Provided clinical services to patients of the Treatment Center with a variety of psychological, behavioral, and medical problems. Provided counseling to clients addressing end of life issues and distress-management. Collaborated with medical staff to address patient needs and improve patient care.  
*Supervisor:* M. Scott DeBerard, Ph.D.

8/10-1/13 *Graduate Student Therapist*  
 Integrated Practicum in Psychology  
 Utah State University Psychology Community Clinic, Logan, UT

Psychoeducational assessment; individual and family psychotherapy for

adults, children, adolescents, and families; behavioral parent training; and clinical case presentations.

*Supervisors:* M. Scott DeBerard, Ph.D., Susan L. Crowley, Ph.D., Kyle M. Hancock, Ph.D., Gretchen Peacock, Ph.D.,

### ADDITIONAL CLINICAL EXPERIENCES

8/12-4/13 *Graduate Student Trainee*, Utah Regional Leadership and Education in Neurodevelopmental Disabilities (URLEND)  
Utah State University, Logan, UT

Training emphasized an interdisciplinary model and was comprised didactic, clinical, and research training experiences. Clinical training consisted of shadowing pediatric psychologists and clinical professionals providing therapy to children and families around medical (e.g., craniofacial, spina bifida) and clinical child issues (e.g., developmental disabilities, disruptive behaviors). Didactic training consisted of training seminars focused on promoting knowledge and awareness regarding a variety of models, including medical home, life course, transition, and family centered care. Research training consisted of designing and conducted a research investigation on the barriers and solutions to neonatal follow up in the state of Utah.

*Supervisor:* Gretchen G. Peacock, Ph.D.

*Co-Directors:* Sarah Winter, M.D. (University of Utah), Judith M. Holt, Ph.D. (Utah State University)

8/07-7/09 *Volunteer Crisis Counselor*  
Headquarters Counseling Center, Lawrence, KS

Received training in crisis intervention counseling, especially in suicide prevention. Provided counseling services to both local and state-wide clients and referred clients to available community resources if needed. Provided counseling services to phone-callers as part of the National Suicide Prevention Lifeline.

*Supervisor:* Marcia Epstein, LMSW.

### OUTREACH/WORKSHOPS

Sept 2013 *Facilitator, Community Mental Health Screenings*  
Northern Utah Hispanic Coalition 5<sup>th</sup> Annual Health Fair, Logan, UT

Psychoeducation regarding mental health issues and psychological disorders. Performed free mental health screenings for anxiety and depression and provided appropriate referrals to psychological services in

the area.

*Supervisor:* Melanie Domenech-Rodriguez, Ph.D.

Nov 2012 Facilitator/Co-Developer, *Effective Discipline Strategies for Young Children*, one 120-minute workshops, South Main Clinic, Salt Lake City, UT

Psychoeducation regarding operational learning principles were presented to families of Latino and Hispanic children with disruptive behavior problems. Included discussion of differential reinforcement of other behavior, time out, and expected behavior of young children.

*Supervisor:* Gretchen G. Peacock, Ph.D.

Nov 2012 Co-creator/Leader, *Behavior Basics Class*, two 60-minute workshops, Up to Three Early Intervention Program, Logan, UT

Psychoeducation regarding behavior management strategies for children birth to three with developmental delays and/or disabilities.

*Supervisor:* Gretchen G. Peacock, Ph.D.

June 2012 Creator/Leader, *Toilet Training Strategies for Children with Autism*, one 90-minute workshop, Up to Three Early Intervention Program, Logan, UT

Psychoeducation regarding toilet training strategies for young children diagnosed with autism spectrum disorder. Included trouble-shooting certain strategies for participants based on child language, psychopathology, or family resources.

*Supervisor:* Gretchen G. Peacock, Ph.D.

June 2010 Co-author/Presenter, *ACT-Enhanced Behavioral Parent Training*, 90-minute workshop conducted at the Association for Contextual Behavioral Science annual convention in Reno, NV

Presented a model for incorporating Acceptance and Commitment Therapy with traditional Behavior Parent Training. Included psychoeducation on the interventions, trouble-shooting certain strategies based on clinical population, and experiential activities.

*Supervisor:* Clinton E. Field, Ph.D.

## **RESEARCH EXPERIENCE**

3/13-5/15 *Research Team Member*  
Utah State University, Logan, UT

Responsibilities included the design and implementation of preventative behavioral parent training research group for parents of children in an early intervention program with developmental delays or disabilities. Also, prepared and reviewed study materials, attended research meetings, assisted in recruitment of participants, and data collection and analysis.  
*Supervisor:* Gretchen G. Peacock, Ph.D.

8/12-Present *Research Team Member*  
 Dr. Scott DeBerard's Research Team, Utah State University, Logan, UT

Responsibilities included the design and implementation of research investigating various treatment outcomes, including treatment outcomes for youth seen at a training clinic as well as patient outcomes after surgery. Also, prepared and reviewed study materials, attended research meetings, data collection and analysis, and dissemination in professional venues.  
*Supervisor:* M. Scott DeBerard, Ph.D.

8/09-5/13 *Research Team Member*  
 Behavioral Pediatric Research Group (BPRG), Utah State University, Logan, UT

Responsibilities included the design and implementation of preventative behavioral parent training research as well as research on the incorporation and treatment outcomes of Acceptance and Commitment Therapy with traditional Behavior Parent Training. Also, prepared and reviewed study materials, attended weekly research meetings, data collection and analysis, and dissemination in professional venues.  
*Supervisor:* Clinton E. Field, Ph.D.

8/09-5/11 *Research Team Member (including Research Assistant from 8/10-5/11)*  
 First Environment Research Projects, Department of Psychology, Utah State University, Logan, UT

Responsibilities included conducting data analysis on research investigating trauma in Native American communities and student perceptions of teaching effectiveness in undergraduate psychology. Also, attended weekly meetings, reviewed lab projects, edited documents, and dissemination of research in professional venues.  
*Supervisor:* Gayle Morse, Ph.D.

8/08-5/09 *Undergraduate Research Team Member*  
 Dr. Michael C. Roberts's Research Team, University of Kansas, Lawrence, KS

Responsibilities included data collection and analysis of a program evaluation of a pediatric oncology camp. Also, attended research meetings, data collection, entry, and analysis, and dissemination in professional venues.

*Supervisor:* Michael C. Roberts, Ph.D.

8/08-5/09 *Undergraduate Research Team Member*

Dr. Bridget K. Biggs's Research Team, University of Kansas, Lawrence, KS

Responsibilities included data collection and analysis on research looking at friendship dyads and internalizing problems in early adolescent youth. Also, attended weekly research meetings, data collection, entry, and analysis, and coded dyad interaction videos.

*Supervisor:* Bridget K. Biggs, Ph.D.

## PUBLICATIONS

**Prout, K.**, & Field, C. E. (October 2012). A treatment outcome study of acceptance and commitment therapy with type 1 pediatric diabetes patients. *Progress Notes: Newsletter of the Society of Pediatric Psychology, Division 54, American Psychological Association, 36(3)*, p.6.

Wu, Y. P., **Prout, K.**, Roberts, M. C., Parikshak, S., & Amylon, M. D. (2011). Assessing experiences of children attending a camp for children with cancer and their siblings: A preliminary study. *Child and Youth Care Forum, 40*, 121-133.

**Prout, K.** (Fall 2009). Program evaluation of a pediatric oncology camp for patients and siblings. *The Journal of Undergraduate Research at the University of Kansas, 2*, 91-100.

## Book Chapters

Peacock, G. G., Chase, T., & **Prout, K.** (In press, 2016). Evidence based interventions for elimination disorders in children and adolescents: enuresis and encopresis. In L. Theodore (Ed.), *The Handbook of Applied Interventions for Children and Adolescents*. Springer Publishing Company.

## Manuscripts Under Review/In Progress

**Prout, K.** & DeBerard, M. S. (In progress, 2015). Therapeutic and therapist-oriented factors associated with youth and adult psychotherapy outcomes. *Administration and Policy in Mental Health and Mental Health Services Research, Special Issue: Therapist Effects*.



## PRESENTATIONS

- Prout, K., & DeBerard, M. S.** (April, 2016). *Youth psychotherapy outcomes of a graduate-level psychology training clinic*. Poster presented at the Society of Behavioral Medicine Convention, Washington, DC.
- Prout, K., & DeBerard, M. S.** (Oct, 2014). *Clinically significant change across outpatient psychotherapy treatment among child and adolescent clients of a doctoral psychology training program*. Poster presented at the National Conference on Clinical Child and Adolescent Psychology, Lawrence, KS.
- Prout, K., Dance, C., Bluett, E., & DeBerard, M. S.** (April, 2014). *Innovative avenues for doctoral-level psychology training in primary care settings*. Presented at the Rocky Mountain Psychological Association Convention, Salt Lake City, UT.
- Prout, K., Dance, C., & DeBerard, M. S.** (April, 2014). *Contextual factors associated with clinically significant change among clients of a psychology training clinic*. Poster presented at the Society of Behavioral Medicine Convention, Philadelphia, PA.
- DeBerard, M. S., Henrie-Barrus, T., Averill, L. A., Averill, C. L., Dance, C., **Prout, K.** (April, 2014). *Evaluating the construct validity of the opioid abuse risk screener (OARS) across healthy, pain treatment, and substance abuse treatment samples*. Poster presented at the Society for Behavioral Medicine Convention, Philadelphia, PA.
- Prout, K., Potts, S., Dance, C., & DeBerard, S.** (March, 2013). *An investigation of clinically significant change and factors associated with clinically significant change among clients of a doctoral psychology training clinic*. Poster presented at the Society of Behavioral Medicine Convention, San Francisco, CA.
- Prout, K., & Field, C.** (July, 2012). Preliminary Data from a Pilot Study on Treatment Outcomes of Acceptance and Commitment Therapy with Type 1 Pediatric Diabetes. In **K. Prout** (Chair), *Clinical Applications of ACT with Youth: A Review of Treatment Outcomes for ACT Across Various Populations*. Symposium presented at the annual convention, Association for Contextual Behavioral Science, Washington, D.C.
- Potts, S. A., Yardley, J., Morrison, K. L., Field, C. E. (July, 2012). Parent-Facilitated Acceptance and Commitment Therapy for Pediatrics with OCD. In **K. Prout** (Chair), *Clinical Applications of ACT with Youth: A Review of Treatment Outcomes for ACT Across Various Populations*. Symposium presented at the

annual convention, Association for Contextual Behavioral Science, Washington, D.C.

Field, C. E., Armstrong, A., Malmberg, J., **Prout, K.**, & Greene, R. (July, 2012). Preliminary Data from a Pilot Study Utilizing ACT-Enhanced BPT. In **K. Prout** (Chair), *Clinical Applications of ACT with Youth: A Review of Treatment Outcomes for ACT Across Various Populations*. Symposium presented at the annual convention, Association for Contextual Behavioral Science, Washington, D.C.

**Prout, K.**, Snyder, C., & DeBerard, M. S. (April, 2012). *A pilot study examining change in the OQ-45 across four visits to a doctoral psychology training clinic*. Poster presented at the Society of Behavioral Medicine Convention, New Orleans, LA.

**Prout, K.**, & Field, C. (April, 2011). *Acceptance and commitment therapy with type 1 pediatric diabetes patients: A conceptualization*. Poster presented at Intermountain Graduate Research Symposium, Logan, UT.

**Prout, K.**, White, A., & Field, C. (April, 2011). *An examination of current literature implementing acceptance and commitment therapy with child and adolescent populations*. Poster presented at the Intermountain Graduate Research Symposium, Logan, UT.

Zhao, X., McLeary, E., Stevens, T., Enno, A., **Prout, K.**, Davies, S., Tafoya, M., & Morse, G. (Jan, 2011). *Quality of life, cultural identity, and PTSD in an American Indian sample*. Poster presented at National Multicultural Conference and Summit, Seattle, WA.

Enno, A., Stevens, Tafoya, M., Davies, S., McCleary, E., **Prout, K.**, Zhao, X., & Morse, G. (June, 2010). *PTSD in a native community*. Poster presented at the annual convention, American Indian Psychologists and Psychology Graduate Students, Logan, UT.

**Prout, K.**, & Field, C. (May, 2010). Preventive behavioral parent training: The feasibility of primary prevention efforts targeting early parent-child social interactions. In C. Field (Chair), *Preventive Behavioral Parent Training: Establishing an Empirical Base in the Primary Prevention of Children's Conduct Problems*. Symposium conducted at the annual convention, Association of Behavior Analysis International, San Antonio, TX.

**Prout, K.** (April, 2009). *Program evaluation of a pediatric oncology camp for patients and siblings*. Poster presented at the annual meeting, University of Kansas Undergraduate Research Symposium, Lawrence, KS.

**Prout, K.**, Wu, Y. P., Parikshak, S., Roberts, M. C., & Amylon, M. D. (April, 2009). *Children with cancer and their siblings: Health-related quality of life and parent and camper satisfaction with an oncology summer camp*. Poster presented at the annual meeting, Pediatric Psychology Conference, Kansas City, MO.

### AWARDS

- 2014 Borg Applied Practice and Research Award (\$3,000), Utah State University.
- 2014 Psychology Department Research Travel Award (\$500), Utah State University.
- 2013 Utah Regional Leadership Education in Neurodevelopmental Disabilities Award (\$6,500).
- 2013 Psychology Department Research Travel Award (\$300), Utah State University.
- 2012 Psychology Department Research Travel Award (\$300), Utah State University.
- 2011 Psychology Department Research Travel Award (\$300), Utah State University.
- 2008 University of Kansas, Undergraduate Research Grant (\$1,500), University of Kansas.

### **TEACHING EXPERIENCE**

- 8/11-5/12 & 7350 *Integrated Practicum in Clinical/Counseling Psychology*, Psychology  
9/14-5/15 Graduate Teaching Assistant, on-campus course - Utah State University,  
Logan, Utah  
*Duties:* Presented to first year practicum students on topics related to service provision, including risk assessment with suicidal clients, as well as reviewed clinical notes, certified test-offs on various assessments, and assisted in group supervision exercises and discussions.  
*Instructors:* Susan L. Crowley, Ph.D.; Kyle M. Hancock, Ph.D.
- Spring 2011 *Cognitive Psychology*, Psychology 4420/4430  
*Duties:* Graduate Teaching Assistant, on-campus sections - Utah State University, Logan, Utah  
Lectured on topics related to cognitive psychology as well as graded assignments and organized class projects.  
*Instructor:* Joseph Baker, M.S.
- Spring 2010 *Developmental Psychology*, Psychology 1100  
Graduate Teaching Assistant, on-campus course - Utah State University, Logan, Utah  
*Duties:* Presented to on topics related to child development as well as graded assignments, administered tests, and held consultation hours with students.  
*Instructor:* Courtney Henry, M.S.

- Fall 2009      *Childhood Abuse and Neglect, Psychology 3120*  
 Graduate Teaching Assistant, on-campus course - Utah State University,  
 Logan, Utah  
*Duties:* Presented to on topics related to childhood abuse and neglect and  
 elderly abuse as well as graded assignments, administered tests, and held  
 consultation hours with students.  
*Instructor:* Courtney Henry, M.S.
- Fall 2009      *Developmental Psychology, Psychology 1100*  
 Graduate Teaching Assistant, on-campus course - Utah State University,  
 Logan, Utah  
*Duties:* Presented to on topics related to child development as well as  
 graded assignments, administered tests, and held consultation hours with  
 students.  
*Instructor:* Jessica Gundy, M.S.

### **SPECIALTY TRAININGS ATTENDED**

- 10/2013      Creating Community in Diverse School Environments  
 A one-day workshop  
 Lee Mun Wah, M.S. M.A. (StirFry Seminars & Consulting, Inc.)  
 Utah State University, Logan, UT
- 4/2010      Introductory Acceptance and Commitment Therapy Experiential  
 Workshop  
 A two-day workshop  
 Steven C. Hayes, Ph.D. (University of Nevada, Reno)  
 Association of Contextual and Behavioral Sciences Annual World  
 Conference VIII in Reno, Nevada
- 4/2010      An Integrated Approach to Complex Psychological Trauma  
 A one-day workshop  
 John Briere, Ph.D. (University of Southern California)  
 Utah State University, Logan, Utah

### **PROFESSIONAL SERVICE**

#### STUDENT REPRESENTATION

- 2011-2013      Clinical Child Faculty Search Committee, graduate student representative

### PROFESSIONAL AFFILIATIONS

- 2012-present *Association of University Centers on Disabilities*, graduate student member
- 2011-present *Society for Behavioral Medicine*, graduate student member
- 2010-present *Association for Contextual Behavioral Science*, graduate student member
- 2010-present *Association for Behavior Analysis International*, graduate student member
- 2009-present *American Psychological Association*, graduate student member  
 Division 38: *Health Psychology*, member  
 Division 53: *Society for Clinical Child and Adolescent Psychology*, member  
 Division 54: *Society for Pediatric Psychology*, member

### ACADEMIC AWARDS AND HONORS

- 2014 Golden Key International Honor Society, Graduate
- 2009 Honors in Psychology, University of Kansas
- 2009 Phi Beta Kappa Academic Honor Society
- 2009 Golden Key National Honor Society, Undergraduate
- 2008 University of Kansas Undergraduate Researcher Award
- 2005-2009 University of Kansas Honor Roll