2017-03-01

Rates and Predictors of Adolescent Premature Termination: Applying Clinically Significant Change

Mariah Meaalii Bullock
Brigham Young University

Follow this and additional works at: https://scholarsarchive.byu.edu/etd

Part of the Psychology Commons

Rates and Predictors of Adolescent Premature Termination:

Applying Clinically Significant Change

Mariah Meaalii Bullock

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

Jared S. Warren, Chair
Gary M. Burlingame
Patrick R. Steffen

Department of Psychology

Brigham Young University

ABSTRACT

Rates and Predictors of Adolescent Premature Termination:
Applying Clinically Significant Change

Mariah Meaalii Bullock
Department of Psychology, BYU
Master of Science

Premature termination from child and adolescent psychotherapy is a prevalent problem for clients, their families, and mental health services. Rates of premature termination have been estimated at a range of 16-72%. Many variables have been examined as potential predictors of premature termination, yielding inconsistent conclusions. Researchers propose that part of this variability in rates and predictors is due to the inconsistent application of definitions of premature termination. The past literature identifies two main categories of definitions in this line of research: therapist judgment and number of sessions. This study aims to incorporate a relatively new definition, clinically significant change, in the evaluation of premature termination rates and predictor variables in a sample of adolescents receiving treatment in three community mental health clinics. Results showed that 65.7% of the participants were classified as premature terminators under the definition of clinically significant change. Premature termination was significantly correlated with parenting skills and ratings of the therapeutic alliance by both the parent and adolescent. However, the only variable that predicted PT was the therapeutic alliance as rated by the adolescent. It appears that, rather than having a small range of rates and universal predictors of premature termination, it may depend on the definition that is chosen.

TABLE OF CONTENTS

LIST OF TABLES

Rates and Predictors of Adolescent Premature Termination:

Applying Clinically Significant Change

Premature termination (PT) from psychotherapy, also referred to as dropout, early

withdrawal, and attrition, is described as inappropriate, early withdrawal from therapy (Hatchett

& Park, 2003).   It is a problem that affects clients, their families, and mental health service

providers. Rates of child and adolescent PT range from 16-72% (de Haan, Boon, de Jong,

Hoeve, & Vermeiren, 2013). This wide range makes it difficult to identify the real prevalence of

PT in child and adolescent therapy. In addition, there is also the possibility that over two-thirds

of children and adolescents entering therapy are withdrawing before they are able to receive the

full potential benefits. Clients that withdraw from treatment prematurely may experience

persistence and worsening of symptoms and disorders, require additional and more costly

services in the future, engage in delinquent activity, and experience poorer life outcomes, such as

job and educational attainment (Dulmus & Wodarski, 1996; Farmer & Burns, 1997; Lau &

Weisz, 2003; Reis & Brown, 1999). PT can also cause problems for mental health services in

that limited resources are used inefficiently (Armbruster & Kazdin, 1994).

Gaining a greater understanding of the determinants of PT can help prevent these

negative outcomes as well as help develop and improve interventions that target these

determinants to increase retention. Many studies have examined PT in child and adolescent

populations to better understand the factors that are associated with and predict PT. Some of the

factors that consistently predict PT are ethnicity, lower monthly family income, an externalizing

disorder diagnosis, poor parenting, and a weak therapeutic alliance (de Haan et al., 2013). Over

60 factors have been identified as potential predictors of youth PT; however, results across

studies have been generally inconsistent in yielding a clear picture of the predictors of youth PT

(de Haan et al., 2013).

A possible explanation for the inconsistency in PT rates and predictor variables is the

variation and inconsistency in defining PT and what early and inappropriate withdrawal means.

The most recent meta-analysis of PT in child and adolescent psychotherapy identified two broad

categories of definitions: therapist judgment and number of sessions (de Haan et al., 2013). The

therapist judgment method of defining PT has been operationalized as a failure on the part of the

client and/or caregiver to attend sessions against the recommendation of the therapist

(Armbruster & Fallon, 1994; Kazdin & Mazurik, 1994; Lai, Chan, Pang & Wong, 1997; Lau &

Weisz, 2003). Therapist judgment has been historically regarded as the most accurate and

preferred method (Pekarik, 1985b; Wierzbicki & Pekarik, 1993). Despite its consistent criteria

and historical preference, therapist judgment can be subjective and have low reliability (Hatchett

& Park, 2003). Hannan et al. (2005) also found that therapist judgments are often not accurate

when compared to statistically based methods of judgment, particularly judgments of client

outcome and recovery.

Defining PT by the number of sessions a client attends may additionally contribute to the

varying rates and predicting factors. Unlike therapist judgment, the criteria for defining a client

as prematurely terminated under this definition are much more variable. Under this definition,

some of the ways a client can be labeled as prematurely terminated are if they fail to attend

therapy after the first session (Miller, Southam-Gerow, & Allin, 2008; Yeh, Eastman, & Cheung,

1994), stop attending before four sessions (Friars & Mellor, 2007), terminate before the 21st

session (Baruch, Vrouva, & Fearon, 2009), or miss their last scheduled session (Pekarik, 1992).

Although this method is highly reliable, the cutoff point appears arbitrary, with no consistent

agreement among researchers. Critics of this method say that duration based criteria tend to be

meaningless and only provide dichotomous therapy duration (Pekarik, 1985) and that some

patients, though terminating treatment earlier than planned, can be considered successful

(Johnson, Mellor, & Brann, 2008).

A relatively newer definition of PT was introduced by Hatchett and Park (2003), drawing

off of Jacobson and Truax's (1991) concept of clinically significant change (CSC). This

definition indicates that CSC occurs when the client obtains a score in a nonclinical range on a

standardized outcome measure and the change in score reflects reliable improvement. Advocates

of this method say that it is highly reliable, quantifiable, more objective, and may be the most

accurate way to measure the construct of PT (Hatchett & Park, 2003). This CSC method of

defining PT was incorporated in a study of adult clients from a university clinic that compared

rates of PT under six different definitions, including therapist judgment and multiple subtypes of

number of sessions. Results showed that rates of PT are highest under the CSC definition (77%)

and that there is no significant agreement of classifying PT between CSC and any of the other

definitions (Swift, Callahan, & Levine, 2009).

No studies that we are aware of currently apply this definition of CSC in a youth sample

to compare rates and predictor variables to other definitions. The goals of this study were to a)

identify the rate of PT for the CSC definition in an adolescent outpatient sample, b) evaluate if

predictors of PT in youth psychotherapy from the past literature also apply under the CSC

definition, and c) further investigate descriptive data regarding how much change is occurring

when clients terminate to identify potential patterns. We hypothesize that CSC will produce

higher rates of PT than existing estimates of therapist judgment. We also hypothesize that all

consistent past predictors of PT, as identified by the existing literature and that are measureable

in this study (ethnicity, income, externalizing disorder diagnosis, poor parenting, and therapeutic alliance), will also show significance under the CSC definition.

Method

This study is archival in nature. Data for this study were gathered from a pre-existing data set of a study that was approved by the Institutional Review Board to collect longitudinal information from adolescents and their primary caregiver receiving psychotherapeutic services from three community mental health clinics between the years of 2010-2013 (Merril, Warren, Garcia & Hardy, 2015).

Participants

Participants were 150 adolescents, ages 12-17 (M = 14.25, SD = 1.61), and their primary caregiver, seeking mental health services from three community mental health clinics. The three clinics were located in the state of Utah and serve a community of approximately 530,000 people. Participants were recruited at their intake appointment, prior to receiving treatment, and were not aware of the present study or its goals. Of the total number of individuals recruited, 90% agreed to participate. According to the 2010 United States Census report, this sample of participants was demographically representative of people seeking outpatient treatment in the Intermountain West region of the United States (United States Census Bureau, 2010). Of the sample, 61% self-identified as male (n = 91). The distribution of the sample's ethnicity was approximately 81% Caucasian, 9% Hispanic/Latino, 3% Hispanic/White, 1% African/White, 1% Asian/Pacific Islander, 1% African-American, and 4% other. The mean family income of the participants was $1209/month (median = $1000/month). Participants' had a diversity of primary diagnoses, including anxiety disorders (n = 12), Oppositional Defiant Disorder (n = 11), Bipolar Disorder (n = 10), Major Depressive Disorder (n = 9), and Adjustment Disorder (n = 8). The

majority of the participants were diagnosed with Attention-Deficit Hyperactivity Disorder or

Conduct Disorder (n = 67) or were not given a primary diagnosis (n = 33). 47% of the

participants were assigned two or more diagnoses (M = 1.61; Merrill et al., 2015).

Therapists and Treatment

Therapists varied in terms of experience and training, including social workers (38%),

social work interns (19%), doctoral psychology interns (16%), psychologists (8%), marriage and

family therapists (8%), and others (11%). Therapists at this clinic reported using a variety of

therapeutic techniques, most commonly cognitive behavioral and eclectic/integrative approaches.

Services provided in this clinic included individual psychotherapy (57% of sessions), family

psychotherapy (25%), group psychotherapy (16%), psychoeducational skill-building groups, and

medication management (2% combined). Participants received a median number of 12 therapy

sessions, with a mean of 2.67 sessions per month and client progress and outcome was regularly

monitored (Merrill et al., 2015).

Measures

Demographic data was collected through the clinic at intake, prior to the initial session, as

reported by the primary caregiver. Self-identified ethnicity and monthly family income were

evaluated from this information for the purposes of the present study.

Youth Outcome Questionnaire – Self-Report (Y-OQ-SR). Treatment outcome was

measured using the Youth Outcome Questionnaire Self-Report (Y-OQ-SR). The Y-OQ-SR is

designed to be completed by adolescents (ages 12-18) to track changes in their psychological

functioning over time (Burlingame et al., 2001, 2004, 2005). The measure takes approximately

8-10 minutes to complete and consists of 64 items that are rated on a 5-point Likert scale. The

YOQ-SR produces six subscale scores that identify different emotional and behavioral problems.

The six subscales are summed together to produce a total score, which indicates psychological symptoms and overall distress. Scores range from -16 to 240, with higher scores indicating greater distress. Eight items represent healthy behaviors and are thus scored negatively, which accounts for the possibility of obtaining a negative score. Only the total score was used for the current study. The total score has a satisfactory level of internal consistency ($\alpha = .95$) and a 6-week test-retest reliability of .89 (Burlingame et al., 2005). It also has a significant concurrent validity with similar self-report measures looking at psychological functioning, such as the Child Behavior Checklist – Youth Self-Report (CBCL-YSR; r=.83; Ridge, Warren, Burlingame & Tumblin, 2009). For the present study, changes in total scores from intake to termination on the Y-OQ-SR were evaluated to determine clinically significant change.

Treatment Support Measure – Parent (TSM-P). The TSM (parent and youth forms) was designed as a treatment planning and clinical support tool for therapists to be used in conjunction with the Y-OQ. The parent form is scored on a 5-point Likert scale and assesses the domains of parenting self-efficacy, social support, parenting skills, parent distress, and therapeutic alliance. A total score is not calculated for this measure (Warren & Lambert, 2013). The present study used the domain scores of parenting skills, parent distress, and therapeutic alliance. TSM-P domains have an internal consistency ranging from .72 - .9 and a test-retest of .56 - .77. Confirmatory factor analysis was performed for each TSM domain to test construct validity and yielded excellent model fit for all domains (Warren et al., 2017).

Treatment Support Measure-Youth (TSM-Y). The TSM-Y is a self-report measure for adolescents ages 12-17 that evaluates youth perceptions of problems and is similarly used as the TSM-P to assist therapists when clients are not making expected progress in treatment. The TSM-Y is scored on a 5-point Likert scale and assesses four domains that have theoretical and/or

empirical associations with youth outcome: self-efficacy, social support, motivation for treatment, and therapeutic alliance. A total score is not calculated for this measure (Warren & Lambert, 2013). The present study used the domain score that evaluates the therapeutic alliance between the client and therapist as perceived by the adolescent. The TSM-Y domains have an internal consistency ranging from .85 - .92 and a test-retest of .62 - .81. Confirmatory factor analysis was performed for each TSM-Y domain to test construct validity and yielded excellent model fit for all domains (Warren et al., 2017).

Procedure

Prior study. Therapists and clients performed treatment as usual without any knowledge of this study and its purposes. All of the above measures were administered at intake, approximately 15 minutes prior to the first five sessions, and approximately every three weeks afterwards or until treatment was terminated. This distribution of assessment throughout therapy reflects the finding that youth symptoms in psychotherapy show the most change in the first few sessions (Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009). In total, the assessment battery required approximately 15 minutes to complete. No information was given to the therapists to influence the treatment that they provided. Therapists were able to review Y-OQ and Y-OQ-SR scores throughout therapy.

Definition of premature termination. The definition of premature termination that was used in the current study was clinically significant change. Clinically significant change was defined as a change in the total score of 18 points or more on the Y-OQ-SR from the intake session to the last session attended. The final total score must also fall in the nonclinical range, which has a cutoff of 47 for the Y-OQ-SR (Burlingame, Wells, Lambert & Cox, 2004). The amount of change necessary for the total score to reflect reliable change was calculated by the

creators of the measures, using a formula developed by Jacobson and Truax (1991), called the Reliable Change Index, in order to be confident that the change is real.

Predictors of premature termination. The predictor variables selected for the current study were chosen based on information from the most recent meta-analysis of child and adolescent psychotherapy (de Haan et al., 2013). These variables showed replicable statistical significance and medium to strong effect sizes over more than one definition of premature termination or between both effectiveness and efficacy studies. Of the identified variables that predict premature termination, this study evaluated all of the variables that have the capacity to be measured given the information gathered in the prior study from which this data derives. These variables included: ethnicity, income, externalizing disorder diagnosis, poor parenting, and therapeutic alliance. Not all past significant predictor variables could be measured due to the information available from the study from which the data set comes.

Demographic information such as ethnicity and monthly family income were gathered directly from the data set. Monthly income was evaluated as a continuous variable. Because the sample had limited numbers of ethnic minority participants, the variable of ethnicity was dichotomized as Caucasian or non-Caucasian. The grouping of participants in this way has shown significant differences in premature termination in past literature in that non-Caucasians are more likely to prematurely terminate (Nock & Kazdin, 2001).

The presence of an externalizing disorder diagnosis was determined by whether or not the clinician gave the client a diagnosis from the Disruptive, Impulse Control, and Conduct Disorder domain or Attention-Deficit/Hyperactivity Disorder predominantly hyperactive or combined presentation. This variable was dummy coded according to whether or not clients had an externalizing disorder diagnosis.

In prior studies, poor parenting was determined by the amount of stress the parent feels and adverse child rearing practices (Friars & Mellor, 2007; Kazdin & Mazurik, 1994; Peters, Calum, & Harrington, 2005). For this study, poor parenting was evaluated using the TSM-P scores of the Parenting Skills and Parent Distress subscales. Both scales were evaluated as continuous variables.

Therapeutic alliance was evaluated using the TSM-P and TSM-Y scores on the Therapeutic Alliance subscale from the last attended session. Therapeutic alliance has typically been evaluated post-treatment (Garcia & Weisz, 2002; Hawley & Weisz, 2005; Kazdin, Holland, & Crowley, 1997). Because post-treatment data is not available, the data from the last session was the closest approximation. These scores were evaluated as continuous variables and reflect the caregiver-therapist alliance and client-therapist alliance, respectively. Parent report of the therapeutic reliance is associated with greater attendance of sessions and lower rates of PT and client report of therapeutic alliance is associated with symptom improvement (Hawley & Weisz, 2005).

Results

Rates of Premature Termination

To calculate the rate of premature termination, the number of participants that reported 18 points or more of improvement in their YOQ-SR total score from intake to termination and terminated below the clinical cutoff were divided from the total number of participants. This analysis revealed that 65.7% (n = 96) of participants prematurely terminated according to the definition of CSC. This compares to the 77% of adults who prematurely terminated in the Swift et al. (2009) study under the same definition. Those who prematurely terminated improved over the course of treatment on average ($M = 5.28$; range: -77 – 78). Those who completed treatment

experienced about five times as much improvement as premature terminators (M = 28.90; range: -9-118). Those who prematurely terminated ended treatment about 14 points above the non-clinical cutoff score of the YOQ-SR (*M = 60.40;* range: -8 – 204). Rates of PT from youth psychotherapy according to therapist judgment range from 20.5% to 61.6% (M = 36.7%; de Haan et al., 2013). As predicted by hypothesis 1, the rate of PT according to the definition of clinically significant change was higher than existing percentages based on therapist judgment. Descriptive statistics of the predictor and outcome variables are presented in Table 1.

Predictors of Premature Termination

Pairwise correlations between predictor and outcome variables were conducted and are presented in Table 2. PT as defined by CSC was significantly correlated with parenting skills (r = -.17, p < .05) and ratings of the therapeutic alliance by both the adolescent (r = .42, p< .05) and primary caregiver (r = .18, p < .05). Ethnicity and monthly income (r = .17, p < .05), parenting skills and parent distress (r = .50, p< .05), and parent distress and parent ratings of the therapeutic alliance (r = .22, p < .05) were also significantly correlated. Lastly, parent and adolescent ratings of the therapeutic alliance were significantly correlated (r = .61, p < .05).

Logistic regression was performed to assess whether ethnicity, the presence of an externalizing disorder, monthly income, parenting skills, parent distress, and therapeutic alliance as rated by the adolescent and their primary caregiver predicted whether or not adolescents prematurely terminated from psychotherapy. Results of the logistic regression are displayed in Table 3. The therapeutic alliance as rated by the adolescent was a significant predictor of PT. Ratings of therapeutic alliance one SD above the mean were 1.2 times more likely to complete treatment (β = .18; OR = 1.2; 95% CI [.09, .27]). No other factors significantly predicted PT. Hypothesis two is partially supported in that PT was predicted by youth therapeutic alliance, but

not by any other predictors that have previously been identified in the literature. Overall, the

predictors explain 34% of the variance of whether or not adolescents prematurely terminated.

Table 1

Youth Reports of Family Process Variables, Youth Demographic Variables, and Youth Problem Behaviors: Descriptive Statistics (N = 146)

Variables	M	SD	Range	%s
Ethnicity	NA	NA	0-1	79.5% Caucasian
Externalizing Disorder	.17	.39	0-1	17.2% Externalizing Disorder
Monthly Income	$1043.85	$796.42	$0-$3000	NA
Parenting Skills	44.90	7.41	25.5 - 60	NA
Parent Distress	32.34	7.47	14 - 50	NA
Youth Therapeutic Alliance	16.98	9.38	0 – 25	NA
Parent Therapeutic Alliance	12.48	7.38	0 – 23	NA
Pre-termination	NA	NA	0-1	65.7% Prematurely Terminated

Note: Ethnicity: 0 = *Caucasian*, 1 = *non-Caucasian*. Externalizing Disorder: 0 = *no externalizing disorder diagnosis*, 1 = *externalizing disorder diagnosis.* Premature Termination: 0 = *prematurely terminated*, 1 = *treatment completer.*

Table 2

Correlations Among Predictor and Outcome Variables

	1	2	3	4	5	6	7	8
Pretermination	-							
Ethnicity	.074	-						
External Disorder	-.09	-.02	-					
Monthly Income	.021	.17*	-.02	-				
Parent Skills	-.17*	-.05	-.16	-.09	-			
Parent Distress	-.038	.06	.07	-.11	.50*	-		
Youth Alliance	.42*	.06	-.09	.10	-.06	.06	-	
Parent Alliance	.18*	.00	-.01	.03	.03	.22*	.61*	-

* $p < .05$

Table 3

Logistic Regression Analysis of Premature Termination

Predictor	β	Standard Error	P	Odds Ratio	95% CI
Ethnicity	.73	.52	.17	2.10	-.3 - 1.76
Externalizing Disorder	-.53	.57	.35	.59	-1.6 - .59
Monthly Income	-.0002	.0002	.45	1.0	-.001 - .0003
Parenting Skills	-.06	.03	.06	.94	-.13 - .001
Parent Distress	.004	.03	.90	1.20	-.06 - .07
Youth Therapeutic Alliance	.18*	.04	<. 01	1.20	.09 - .27
Parent Therapeutic Alliance	-.0001	.0001	.27	1.00	-3.72 – 2.28

Nagelkerke's R2 = .34
$p<.05$

Discussion

This study examined the use of clinically significant change as a classification for premature termination in youth psychotherapy and whether or not past predictors of PT using therapist opinion and number of sessions also predicted dropout under this definition. The rate of PT in this sample under the definition of CSC was approximately 66%. Past rates of PT according to therapist opinion range from 21-61% (de Haan et al., 2013). As hypothesized, when evaluating rates of PT in youth psychotherapy, using the CSC definition produced higher rates than existing estimates for the preferred therapist opinion method. This finding, that rates of PT are higher when applying the CSC definition, reflects past conclusions found in an adult sample (Swift et al., 2009). Part of this may be because the CSC definition does not consider those who had initial scores below the clinical cutoff and were terminated before reaching reliable change or those who reached the non-clinical cutoff without 18 points of change on the Y-OQ-SR as treatment completers. Another reason may be that, because CSC is a more objective measure than therapist opinion, therapists may be classifying clients as treatment completers before they have made reliable improvement or reached non-clinical levels of distress in treatment. This result shows that different definitions of PT may be evaluating different aspects of the treatment process and that narrowing the range of premature termination rates across all definitions may not be possible.

Rating of the therapeutic alliance by the adolescent was the only significant predictor of PT in this sample. Although being an ethnic minority, having a diagnosis of an externalizing disorder, low monthly income, high parenting distress, low parenting skills, and caregiver reports of therapeutic alliance have proven to be predictors of PT in past literature (de Haan et al., 2013), they did not reach a level of significance in this study. Many researchers strive to identify the

variables that contribute to PT in youth psychotherapy in order to minimize its negative effects. This study does not find evidence to support that there are universal predictors across definitions of PT. Clinicians may need to take into account how they operationalize PT when evaluating potential risk factors.

Limitations

The limitations that arise are mostly related to the archival nature of the study. Not all variables that showed predictive power in the past literature could be evaluated for this study because they were not measured in the original study. Some of these variables include having deviant peers, increased severity in externalizing symptoms, living in a single parent household, and number of cancellations. An assumption of logistic regression is that all meaningful variables are included as predictors and that was not possible in this study. Future research should apply the residual variables to also assess their association to the clinically significant change definition.

In terms of the method and operation of variables, demographic information, particularly minority status and monthly income, is collected based solely on the caregiver report. Similarly, caregiver report is the sole source of information for the variable of poor parenting.

Another limitation arises concerning the reliability of measures. The psychometrics of the TSM have not been formally published, so results from this measure should be interpreted with slight caution at this time.

Because all ethnic minorities are grouped together to create dichotomous categories of ethnicity, one must be cautious in interpreting results for this variable. The majority of the ethnic minority group in this study was Hispanic, so results cannot be generalized to all ethnic minorities. Also, certain minorities may predict PT, while others do not. Future studies should

have a sample large and diverse enough to separate and evaluate ethnic minorities more specifically and individually.

Therapeutic alliance was assessed at the last session before treatment was terminated. This means that clients will be at different points in their treatment duration when assessed, allowing more or less time to develop a therapeutic alliance with the therapist for different clients and their caregivers and potentially revealing a dose effect. However, as stated earlier, the past literature assessed this variable after treatment was terminated, so this is the best approximation to mirroring those methods without having access to post-treatment information.

Lastly, post-treatment information is not available from the clients and their caregivers. It is possible that clients dropped out and then showed behavioral or symptomatic change that would classify them differently than when they terminated treatment. Having post-treatment Y-OQ information would be informative and advantageous for the goals of this study.

Future Research

Future research should look at agreement between definitions of PT in youth psychotherapy to confirm whether or not there is significant overlap between definitions and if they are indeed evaluating different aspects of treatment. This will help inform clinicians into which definition of PT they should use for which purposes or maybe that multiple need to be considered. There is also a need to incorporate post-treatment evaluation, particularly in the context of CSC, to see how change continues after therapy. This will give clinicians a better idea of the lasting effects of therapy and whether clients previously classified as PT reach a level of treatment completion and vice versa. Lastly, future studies should include larger, more ethnically diverse samples as well as include potential predictor variables that were not included in this study to provide more information as to which variables predict PT when using CSC.

References

Achenbach, T.M., & Rescorla, L.A. (2001). *Manual for the ASEBA school-age forms &*

profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth,

& Families.

Armbruster, P., & Fallon, T. (1994). Clinical, sociodemographic, and systems risk factors

for attrition in a children's mental health clinic. *The American Journal of*

Orthopsychiatry, 64(4), 577–585.

Armbruster, P., & Kazdin, A. E. (1994). Attrition in child psychotherapy. *Advances in*

Clinical Child Psychology, 16, 81–108.

Baldwin, S. A., Berkeljon, A., Atkins, D. C., Olsen, J. A., & Nielsen, S. L. (2009). Rates

of change in naturalistic psychotherapy: Contrasting dose–effect and good-enough level

models of change. *Journal of Consulting and Clinical Psychology, 77,* 203–211.

doi:10.1037/a0015235

Baruch, G., Vrouva, I., & Fearon, P. (2009). A follow-up study of characteristics of

young people that dropout and continue psychotherapy: Service implications for a clinic

in the community. *Child and Adolescent Mental Health, 14*(2), 69–75.

Burlingame, G. M., Cox, J. C., Wells, M. G., Lambert, M. J., Latkowski, M., & Ferre, R.

(2005). *The administration and scoring manual of the Youth Outcome Questionnaire*.

Salt Lake City, UT: American Professional Credentialing Services.

Burlingame, G. M., Mosier, J. I., Wells, M. G., Atkin, Q. G., Lambert, M. J., Whoolery,

M., Latkowski, M. (2001). Tracking the influence of mental health treatment: The development of the Youth Outcome Questionnaire. *Clinical Psychology and Psychotherapy, 8,* 361-379. doi: 10.1002/cpp.315

Burlingame, G. M., Wells, M., Lambert, M. J., & Cox, J. C. (2004). Youth Outcome Questionnaire (Y-OQ). In M. E. Maruish, *The use of psychological testing for treatment planning and outcomes assessment: Volume 2: Instruments for children and adolescents (3rd ed)* (pp. 235-273). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

de Haan, A. M., Boon, A. E., de Jong, J. M., Hoeve, M., & Vermeiren, R. M. (2013). A meta-analytic review on treatment dropout in child and adolescent outpatient mental health care. *Clinical Psychology Review, 33*(5), 698-711. doi:10.1016/j.cpr.2013.04.005

Dulmus, C. N., & Wodarski, J. S. (1996). Assessment and effective treatments of childhood psychopathology: Responsibilities and implications for practice. *Journal of Child and Adolescent Group Therapy, 6*(2), 75–99.

Farmer, E. Z., & Burns, B. J. (1997). Impact of children's mental health problems on families. *Journal of Emotional & Behavioral Disorders, 5*, 230–238.

Fleiss, J. L. (1981). *Statistical methods for rates and proportions*. New York: Wiley.

Friars, P. M., & Mellor, D. J. (2007). Drop out from behavioral management training programs for ADHD: A prospective study. *Journal of Child and Family Studies, 16,* 427–441.

Garcia, J. A., & Weisz, J. R. (2002). When youth mental health care stops: Therapeutic relationship problems and other reasons for ending youth outpatient treatment. *Journal of Consulting and Clinical Psychology, 70*(2), 439–443.

Hannan, C., Lambert, M. J., Harmon, C., Nielsen, S. L., Smart, D. W., Shimokawa, K., et

al. (2005). A lab test and algorithms for identifying clients at risk for treatment failure.

Journal of Clinical Psychology, 61, 155-163.

Hatchett, G. T., & Park, H. L. (2003). Comparison of four operational definitions of

premature termination. *Psychotherapy: Theory, Research, Practice, Training, 40*, 226–

231.

Hawley, K. M., & Weisz, J. R. (2005). Youth versus parent working alliance in usual

clinical care: Distinctive associations with retention, satisfaction, and treatment

outcome. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 117–128.

Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to

defining meaningful change in psychotherapy research. *Journal of Consulting and

Clinical Psychology, 59*, 12–19.

Johnson, E., Mellor, D., & Brann, P. (2008). Differences in dropout between diagnoses in

child and adolescent mental health services. *Clinical Child Psychology and Psychiatry,

13*(4), 515–530.

Kazdin, A. E., Mazurick, J. L., & Siegel, T. C. (1994). Treatment outcome among

children with externalizing disorder who terminate prematurely versus those who

complete psychotherapy. *Journal of the American Academy of Child and Adolescent

Psychiatry, 33*, 549–557.

Kazdin, A. E., Holland, L., & Crowley, M. (1997). Family experience of barriers to

treatment and premature termination from child therapy. *Journal of Consulting and

Clinical Psychology, 65*(3), 453–463.

Lai, K. Y. C., Chan, T. S. F., Pang, A. H. T., & Wong, C. K. (1997). Dropping out from

    child psychiatric treatment: Reasons and outcome. *The International Journal of Social*

    Psychiatry, 43(3), 223–229.

Lau, A. S., & Weisz, J. R. (2003). Reported maltreatment among clinic-referred children:

    Implications for presenting problems, treatment attrition, and long-term outcomes.

    Journal of the American Academy of Child and Adolescent Psychiatry, 42(11), 1327–

    1334.

Merrill, B. M., Warren, J. S., Garcia, D. J., & Hardy, S. A. (2015). Youth motivation as a

    predictor of treatment outcomes in a community mental health system. *Psychotherapy*

    Research, 27(2), 215-226. doi: 10.1080/10503307.2015.1090037

Miller, L. M., Southam-Gerow, M. A., & Allin, R. B., Jr. (2008). Who stays in treatment?

    Child and family predictors of youth client retention in a public mental health agency.

    Child & Youth Care Forum, 37, 153–170.

Nock, M. K., & Kazdin, A. E. (2001). Parent expectancies for child therapy: Assessment

    and relation to participation in treatment. *Journal of Child and Family Studies, 10*(2),

    155–180.

Pekarik, G. (1985). Coping with dropouts. *Professional Psychology: Research And*

    Practice, 16(1), 114-123. doi:10.1037/0735-7028.16.1.114

Pekarik, G. (1992). Relationship of clients reasons for dropping out of treatment to

    outcome and satisfaction. *Journal of Clinical Psychology, 48*, 91–98.

Peters, S., Calam, R., & Harrington, R. (2005). Maternal attributions and expressed

    emotion as predictors of attendance at parent management training. *Journal of*

    Child Psychology and Psychiatry, 46(4), 436–448.

Reis, B. F., & Brown, L. G. (1999). Reducing psychotherapy dropouts: Maximizing

perspective convergence in the psychotherapy dyad. *Psychotherapy, 36*(2),

123–136.

Ridge, N. W. (2007). *The reliability, concurrent validity, and factor structure of the

Youth Outcome Questionnaire Self-Report*. Brigham Young University.

Swift, J. K., Callahan, J., & Levine, J. C. (2009). Using clinically significant change to

identify premature termination. *Psychotherapy: Theory, Research, Practice, Training,

46*(3), 328-335. doi:10.1037/a0017003

U.S. Census Bureau. (2010). Population Finder: Utah. Retrieved March 29, 2013, from

http://www.census.gov/2010census/popmap/ipmtext.php?fl=49

Warren, J.S., & Lambert, M. J. (2013). *Youth clinical support tools manual. Treatment

Support Measure: Parent and youth forms.* Salt Lake City, UT: OQ Measures LLC.

Warren, J.S., Salisbury, T., Garland, A., Collett, T., Green, K., Top, D.N., & Herzog, S.

(2017). *The Treatment Support Measure (TSM): A tool for treatment planning and

problem solving in child mental health services.* Unpublished manuscript, Department of

Clinical Psychology, Brigham Young University, Provo, UT.

Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout.

Professional Psychology: Research and Practice, 24, 190–195.

Weisz, J. R. (2004). *Psychotherapy for children and adolescents: Evidence-based

treatments and case examples*. New York, NY: Cambridge University Press.

Yeh, M., Eastman, K., & Cheung, M. K. (1994). Children and adolescents in community

health care centers: Does the ethnicity or the language of the therapist matter? *Journal of

Community Psychology, 22, 153–163.