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Toward Determining Best Items for Identifying Therapeutic Problem Areas

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Therapeutic Problem Areas

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ABSTRACT

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While most clients show improvement in therapy, anomalously, 5% to 10% actually worsen, and a significant minority of clients shows little or no response to therapy. Earlier studies developed clinical support tools (CSTs) designed to provide feedback to therapists about potential problem areas and to improve the likelihood of a positive outcome for clients identified as at-risk for a negative outcome in therapy (Harmon et. al. 2007; Slade, Lambert, Harmon, Smart, & Bailey, 2008; Whipple et al., 2003). While varying from study to study, the CSTs looked at five domains: therapeutic alliance, motivation to change, social support, life events, and perfectionism. More than 100 questions were used to assess these domains. The major goal of this study was to streamline the CST measures to increase efficiency. Toward that end, a new instrument consisting of 37 questions was developed by administering questionnaires to 169 patients at a rural Utah mental health center. In addition, the life events and social support questions were given to 76 students at Brigham Young University and 88 randomly selected residents of Utah County. Using item response analysis and mean scores for each dimension, subscale cut scores were developed for four dimensions: therapeutic alliance, motivation for therapy, social support, and life events. The perfectionism subscale was dropped from the questionnaire because perfectionism was deemed to be too stable to be useful for the intended use of the measure. Cut scores were also developed for each individual question. These subscale and individual item cut scores are intended to help clinicians identify potential problem areas to be explored during the course of therapy.

Keywords: deterioration, patient-focused research, outcome management, feedback, clinical support tool.

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Introduction

Continuous Outcome Management ultimately attempts to enhance the delivery of psychological services by reducing treatment deterioration and non-response rates, while increasing the proportion of treatment responders. To accomplish this goal, an action-based research strategy is employed that tracks individual client treatment response. Clients who deteriorate or experience little or no change during the course of treatment ("negative treatment outcomes") present a serious, real-world problem in both controlled research (clinical trials) and naturalistic studies (Hansen, Lambert, & Forman, 2002). Regrettably, most clinicians seem to overlook or ignore the fact that some clients not only do not respond well to treatment, but also leave treatment worse off than when they started (Hannan, Harmon, Nielsen, Smart, Shimokawa & Sutton, 2005; Lambert & Ogles, 2004; Mohr 1995).

Curiously, the need for tracking client progress is reinforced by data indicating that therapists are not good predictors of those at-risk for negative treatment outcomes (Hannan et al., 2005). Indeed, Hannan and her colleagues clearly demonstrated that clinicians need independent ("lab test") data to alert them when treatment is not having its intended effects. These results are consistent with past research on clinical versus actuarial predictions (Dawes, 1989; Grove & Meehl, 1996; Grove, Zald, Lebow, Snitz, & Nelson, 2000). These studies support the notion that clinicians can help minimize treatment failures through formal methods of monitoring client treatment response with the use of standardized measures and predictors for negative treatment response.

The wide-spread dissatisfaction of researchers (Goldfried & Wolfe, 1998) and clinicians (Persons & Silberschatz, 1998) with the clinical utility or efficacy and effectiveness research, together with a growing emphasis on quality assurance of mental health services, gave rise to the

development of a new research paradigm called patient-focused research. Believing that treatment quality would be improved, Howard, Moras, Brill, Martinovich, and Lutz (1996) advocated the systematic evaluation of a client's response to treatment during the course of therapy. To ensure the clinical utility of tracking client responses, they also suggested that therapists be provided feedback concerning a patient's progress while in treatment. They hypothesized that if therapists could be apprised of a patient's lack of response to a particular treatment, they could develop timely alternative interventions that could enhance the likelihood of a successful outcome. This patient-focused approach was revolutionary. Historically, individual patients were mostly ignored because researchers tended to focus on the outcome of the aggregate. Patient-focused research, however, has clearly established itself as a critical tool in improving psychotherapy outcome by identifying at risk cases and altering treatment in response to information provided by individual clients.

The dose-response model, which began being used in connection with the patient-focused approach, provides incremental utility as a paradigm for evaluating treatment efficacy. As Hansen et al. (2002) argue (based on research like that of Howard et al., 1996), therapy can be conceptualized as a "dose" which can be administered in varying degrees to achieve the desired "response," or favorable outcome. Previous studies have attempted to describe the response of the therapeutic "dose" by comparing pre-treatment scores to post-treatment scores (see potential problems with pre-post designs in E.W. Lambert, Doucette, & Bickman, 2001). However, because change in therapy is not constant over time and often manifests itself in spurts, Hansen and colleagues urge that a better estimate of the likelihood of change in therapy relies on the probability estimate at each session of therapy. Kadera, Lambert, and Andrews (1996) observed therapeutic change by monitoring outcome on a session-by-session basis. This allowed them

both to track therapy longitudinally and also to assess the impact of therapy at regular intervals. A meta-analysis of the dose-response literature (as reviewed by Hansen et al., 2002) reveals that it takes 13 to 18 sessions to reach a point where at least 50% of clients have responded favorably. Interestingly, the dose-response literature suggests that gains within the first few sessions are the best indicators of positive prognosis (Haas, Hill, Lambert, & Morrell, 2002).

One particularly useful application of the dose-response model allows clinicians to track the recovery or deterioration of their clients and to predict eventual outcome by tracking clients' progress. Jacobson and Truax (1991) point to "clinical significance" as an important gauge of treatment effect when monitoring outcome. They developed a statistical index (known as the reliable change index, or RCI) to determine whether a change score on an outcome instrument is likely ($p < .05$) to indicate actual or clinically significant change. Lambert (1998) created algorithms that he could then rely on to identify clients who were making clinically significant progress in therapy, as well as those who were at risk for a negative therapeutic outcome.

Tracking clients' progress in therapy and predicting treatment failure has already been associated with improved recovery rates in clients (Harmon et al., 2007; Lambert, Whipple et al., 2001). As the APA Task Force (2006) pointed out, one of the "most pressing research needs" includes this particular type of research, which they summarize as "providing clinicians with real-time patient feedback to benchmark progress in treatment and clinical support tools to adjust treatment as needed."

The "clinical support tools" referred to by the APA Task Force (2006) include several important therapeutic variables relating to outcome. Previous studies have addressed enhancing feedback to therapists by means of additional assessments; the clinical support tools (CSTs). The CSTs inform therapists regarding possible obstacles to good outcome the client may be

facing. When clients face obstacles identified in these CST domains (e.g., quality of the therapeutic relationship, motivation), in many cases the therapist can then adjust interventions in order to get the client back on track for a good outcome.

CSTs were originally developed to assess the therapeutic alliance, readiness for change, perception of social support, and eventually life events (Lambert, Bailey, Shimokawa, Harmon & Slade, 2007) and perfectionism (Slade, Lambert, Harmon, Smart, & Bailey, 2008). Scores on questionnaires aimed at operationalizing these constructs were provided to clinicians with feedback if a client's responses in any of these domains differed significantly from expected responses. This research used existing questionnaires with more than 100 items designed to assess these areas. The preceding CST studies showed that the use of the CSTs helped clinicians improve positive outcome with poorly responding clients.

The current research was designed to create a single, more efficient CST questionnaire that, as a result of its efficiency, would be more widely used by clinicians to identify patients who respond to any of the subscales (therapeutic alliance, motivation for change, life events, and social support) in a way that differs from the expected or normative response. In addition, any responses to any individual question that differs from the normative response will be readily identifiable to the clinician in a way that can shape treatment response to clients at-risk for a negative outcome.

Chapter two provides a summary of previous developments in patient-focused research and the history of the development of CSTs. Chapter three describes the methods of the current study with overviews of the participants, measures, research design, and procedures. Chapter four provides the results of the current study. Chapter five discusses the results, draws conclusions, and provides recommendations.

Appendix F contains a submission ready article summarizing important findings from the study that is intended for publication in an appropriate scientific journal.

History of Patient-Focused Research and Clinical Support Tools

History of Patient-Focused Research

Lambert, Whipple, and colleagues were the first of many related studies to explore the effects of providing feedback to therapists. With the tracking algorithms in place, they were able to use data provided by the patients on a weekly basis in their responses to the OQ-45 to provide feedback to therapists. They used a color-coded alert system to communicate potential negative outcomes. A progress graph using a colored dot (red, yellow, green, or white) was given to the therapist. All that was needed to determine the color of the dot was the level of severity of the client's responses initially and at the most recent session to the OQ-45. Decision rules were also loosely informed on the Reliable Change Index (RCI) of Jacobson and Truax (1991). The study found that providing this type of feedback had a significant effect on both the amount of time at-risk clients would stay in therapy and on their ultimate therapeutic outcomes, relative to controls who receive treatment as usual.

These results were replicated in another study providing feedback to the therapists concerning the progress of their clients (Lambert, Whipple, et al., 2002). Clients who were predicted to derive no benefit from therapy were still coded as red or yellow and designated as "Not-On-Track" (NOT). Clients coded green or white were not predicted for negative outcomes and were designated as "On-Track" (OT). While feedback clients did better in both studies than their non-feedback counterparts, a majority of the NOT clients ended therapy with outcomes that were not satisfactory.

In an attempt to support the NOT population, Whipple et al. (2003) hypothesized that a stronger feedback condition may lead to better outcomes for clients. They proposed the use of clinical support tools (CSTs) as an "empirically-based problem-solving strategy" to inform the therapist of factors which may be hampering treatment. These factors are arranged in a decision tree to assist therapists in selecting factors impacting their client. At the time of the Whipple et al. study, three factors (therapeutic alliance, client social support, and motivation for therapy) were identified in the CSTs. The decision tree also advised for possible diagnostic reformulation and/or medication referral to a medical professional as appropriate.

Although Whipple et al. (2003) concluded that CST feedback to therapists produces statistically and clinically meaningful effects for NOT clients, the clients in his study were not randomly assigned to the CST condition. Hawkins, Lambert, Vermeersch, Slade, and Tuttle (2004) applied feedback in a hospital outpatient setting. Interestingly, they hypothesized that providing progress feedback to NOT clients themselves, as well as their therapists, would magnify the size of the treatment effect relative to NOT clients whose therapists only were provided feedback. They found an effect for both forms of feedback (exclusive to therapist versus feedback to therapist and client) and that the patient feedback condition demonstrated an incremental increase in effect. It is important to note, however, that the enhanced feedback condition did not include a CST feedback condition.

Harmon el al. (2007) conducted a replication of the Hawkins et al. (2004) and Whipple et al. (2003) studies in a counseling center setting. The Harmon et al. study improved on the Whipple et al. methodology by using random assignment to the CST condition. In addition, this study attempted to determine whether the CSTs could be considered predictors of eventual outcome. The findings were mixed. While the NOT clients expectedly scored lower than OT

and controls on some dimensions of social support and the therapeutic alliance, they did not

score lower on motivation. Harmon et al. concluded that the motivation scale being used was

inadequate for the population.

A different motivation scale was used by Slade et al. (2008) in the next study done. In

addition, Slade et al. also incorporated an additional scale assessing perfectionism. Slade et al.'s

study also addressed the question of whether immediate, computer-generated feedback was

superior to time-delayed feedback in improving outcome for NOT clients. Results from the

Slade et al. study suggested that the use of the improved CSTs did in fact improve outcome

compared to TAU, again replicating the work of Harmon et al. (2007) and Whipple et al. (2003).

Bailey (2008) altered CST administration in several ways: 1) CST administration was

offered each session in order to give therapists *repeated* CST feedback, 2) CST administration

was shortened to accommodate the repeated administration, and 3) CST feedback to therapists

was enhanced in order to ensure that therapists can more uniformly and quickly utilize feedback

data. Although clients in the experimental group did not differ statistically in outcomes from the

control group, Bailey's efforts in shortening the CST questionnaire paved the way for additional

studies to be done using a more efficient instrument.

History of the Development of Clinical Support Tools (CSTs)

The primary thrust of the original CSTs proposed by Whipple et al. (2003) was to

develop an "empirically based problem-solving strategy." Specifically, the CSTs were

conceptualized and developed to be an intervention for NOT clients. The intervention includes

tracking certain factors or variables of interest and providing timely feedback to therapists

concerning their clients' progress (or lack thereof) relating to the identified variables. The

proffered feedback also provides therapists with the ability to intervene by addressing one or more of the variables being tracked if problems are identified in those variables.

In determining which factors to included in the CSTs, various research teams led by Lambert identified factors that could be measured and factors that are associated both with specific interventions from the literature and with therapeutic outcome. By relying heavily on psychotherapy outcome literature, the likelihood was increased that the factors selected would be of interest to therapists. Individual clients may display problems on only one or multiple or even all of the CST domains. Accordingly, each domain has an associated cut score that suggests the need for therapist attention and suggestions for interventions to be considered by the therapist through the use of a decision tree (see Appendix B). The decision tree is a part of a manual of suggested interventions and conceptual considerations for therapists to address the CST domains in therapy.

The domains selected for the CST factors include the therapeutic alliance, social support, motivation for therapy, perfectionism, and life events. Some of the earliest studies did not address the last of these domains (life events) as a possible factor to explain treatment deterioration. It is noted that these particular CST domains were selected based on psychotherapy literature, but that the list of domains is not to be considered exhaustive. Undoubtedly, future developments in CST research will lead to the incorporation of additional variables and/or to the exclusion of some of the variables currently being used.

Therapeutic alliance. Perhaps no factor is as richly researched in outcome literature as therapeutic alliance. In 1979, Bordin expanded the concept of therapeutic alliance from only psychoanalytic theory to all psychotherapy. In his seminal article, Bordin suggested that therapeutic alliance could be subdivided into three interrelated areas: agreement on goals,

collaboration in therapeutic tasks, and the strength or warmth attributed to the human relationship between the therapist and the client. Martin, Garske, and Davis (2000) found a modest effect size of .22 between client-rated alliance and outcome. Crits-Christoph, Gibbons, and Hearon (2006) were critical of Bordin's findings, suggesting that what little correlation between positive change and alliance was not causal. In fact, Crits-Christoph et al. suggested that early positive changes in therapy accounted for the correlation between outcome and alliance. Others, however, provide very specific findings regarding the alliance's relation to outcome and argue that the therapist contribution to the alliance outweighs the contribution by the client (Baldwin, Wampold, & Imel, 2007).

By contrast, studies have been done to evaluate significant problems with alliance. Such difficulties are often called alliance ruptures (Safran, Muran, Samstag, & Stevens, 2002). Briefly stated, this body of research focuses on finding moments using interpersonal markers of rupture (i.e., withdrawal or confrontation) and exploring the rupture experience in the service of "repairing" the rupture (Safran & Muran, 1996). Intervention suggestions are offered in the CST manual consistent with the approach by Safran and colleagues.

The alliance items used in this study drew heavily from the Revised Helping Alliance Questionnaire (HAq-II; Luborsky et al., 1996), an alliance measure used in previous studies in this line of research, and from other alliance measures and early client-centered facilitative conditions. The HAq-II measured the three aspects of the alliance that were discussed by Bordin (1979): the therapeutic bond, shared goals, and agreement on therapeutic tasks. In the current study, special attention was given to alliance ruptures because these seem especially important in potentially explaining client deterioration. As a result, the current study incorporated items aimed at detecting breaches in the therapist-client relationship.

Motivation for treatment. Deviations from an expected treatment response may also reflect the possibility that a patient has entered psychotherapy with a less than favorable motivation for seeking treatment and that therapists are acting as if the client is well motivated. A sizable percentage of clients continue to drop out of treatment prematurely, fail to comply with their therapeutic regimen, and encounter difficulty in maintaining improvements affected by the therapeutic process (Garfield & Bergin, 1994; Mash & Hunsley, 1993). Deci and Ryan (1985) distinguished between different types of motivation and presented clear hypotheses regarding the therapeutic conditions predicted to hinder or facilitate clients' motivation to change, outlined various consequences that are associated with different types of motivation, and addressed the issue of internalization, the process by which therapeutic changes that were initially reinforced by external sources (e.g., the therapist) become integrated within the individual to form a permanent part of his or her character. Deci and Ryan further suggested that motivation is a dynamic concept and that a client having one motivation type at a particular point in therapy may change to a different type depending on situational influences. Based on a review of research (Gordon, 1976; Kanfer & Grimm, 1978; Mendonca & Brehm 1983; Miller, Benefield, & Tonigan, 1993; Patterson & Forgatch, 1985) and their own findings, Pelletier, Tuson, and Haddad (1997) concluded that when clients perceived their motivation for therapy to be more self-determined, they were more likely to experience less tension, less distraction, and more positive moods during therapy; they considered therapy to be more important, reported higher levels of satisfaction with therapy, and had stronger intentions of continuing in therapy. When clients perceived their motivation to be less self-determined, they showed the opposite pattern of associations. Similarly, Drum and Baron (1998) found that final outcome could be predicted and

enhanced by assessing a patient's readiness to change and matching it with appropriate

therapeutic interventions.

Prochaska and Norcross (2003) propose five distinct stages representing varying degrees

of readiness for change in therapy: Precontemplation, Contemplation, Preparation, Action, and

Maintenance. Efforts to match therapy techniques, even therapeutic orientations, with the unique

readiness for change that clients exhibit are proposed to be helpful. For example, for clients in

the Precontemplation stage of change, motivational interviewing is recommended, while clients

in the Contemplation stage might respond best to rational-emotive behavior therapy or existential

therapy. Specific application of the processes of change to the unique stages of change were also

elaborated upon by Prochaska and DiClemente (1992), who recommended that using

consciousness-raising interventions (e.g., observations, interpretations, etc.) and dramatic relief

(e.g., psychodrama or Gestalt two-chair to raise emotions) are helpful in guiding clients from

Precontemplation to Contemplation stages. Petrocelli (2002) also suggested that providing the

client with feedback on their stage of change assessment is helpful in intensifying positive

change.

Social support. Whipple et al. (2003) noted that time spent in therapy is but a very small

fraction of the time in an individual's life with clients being dependent on their social network as

a central means of coping with stressors. Conservative estimates indicate patients spend less

than 1% of their waking hours in psychotherapy sessions. In a review of more than 100

published studies (Lambert & Barley 2001; Lambert, 1992) estimated the size of impact various

predictors made on outcome and estimated that extra-therapeutic factors are responsible for 40%

of the change in psychotherapy patients. These factors are separate from therapy techniques

(estimated at 15%), common factors (30%) and expectancy/placebo effects (15%) and consist of all interaction the client has outside of therapy.

Consequently, patients predicted to have a poor treatment outcome may not have adequate social support networks to initiate or maintain gains acquired in therapy. Furthermore, the adequacy of social support is directly related to a patient's reported severity of symptoms and can mediate stressful life events and the development of psychological symptoms (Monroe, Imhoff, Wise, & Harris, 1983). For such patients, therapists may need to identify what social support resources a patient already has in their current situation or community that can be put to use to achieve a better treatment outcome (Bankoff & Howard, 1992). Despite the fact that social supports are an extra-therapeutic factor, it is possible for psychotherapists to intervene in these systems and change their impact on clients.

Perfectionism. In addition to the variables just discussed, there is considerable evidence that clients who are excessively perfectionistic are slow responders to treatment and also have problems maintaining a positive therapeutic alliance. The Perfectionism Inventory (PI; Hill et al., 2004) is an instrument that was added by Slade (2008) in an effort to intensify the CST intervention effects. This measure was added after a thorough review of the literature regarding the presence (or absence) of those aspects that are most likely to lead to a poor outcome in psychotherapy. According to a report, based on a large sample of college students who were in counseling, over 26% of the women and 21% of the men stated that perfectionism was "quite distressing" to them (Research Consortium of Counseling and Psychological Services in Higher Education, 1993). Research on perfectionism supports the idea that perfectionism is related to psychopathology and presenting concerns as well as therapeutic outcome. Blatt and Zuroff (2002) suggest that pretreatment level of perfectionism affects therapeutic outcome by

"disrupting the patient's quality of interpersonal relations both in the treatment process and in social relationships outside of treatment." Hartley and Strupp (1983) found that patients' contributions to the therapeutic alliance mediated the effect of pretreatment perfectionism on treatment outcome at termination.

Johnson and Slaney (1996) found that perfectionists had higher standards and required more order in their lives than non-perfectionists, while Rice and Preusser (2002) found the core dimension of "concern about making mistakes" to be related to perfectionism, as well as "hypersensitivity about making mistakes." Self-defeating attitudes are seen in persons who suffer from depression (Blatt, 1995; Burns, 1980; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Dyck 1986; Hewitt & Flett, 1991a; Pacht, 1984; Preusser, Rice, & Ashby, 1994; Rice, Ashby & Slaney, 1998), anxiety (Burns, 1980; Flett, Hewitt, & Dyck, 1989; Hamachek, 1978; Hewitt & Flett, 1991a; Hewitt & Flett, 1991b; Pacht, 1984), obsessive compulsive personality disorder (Johnson & Slaney, 1996), eating disorders (Cash & Szymanski, 1995; Cooper, Cooper, & Fairburn, 1985; Minarik & Ahrens, 1996; Mizes, 1988), suicide (Burns, 1980; Hewitt, Flett, & Turnbull-Donovan, 1992), chemical use and abuse (Nerviano & Gross, 1983; Pacht, 1984), chronic pain (Liebman, 1978; Van Houdenhove, 1986), and coronary heart disease (Pacht, 1984; Smith & Brehm, 1981).

Burns' (1980) idea that perfectionism has important implications for interpersonal relationships has been incorporated into numerous scales (Burns 1980; Frost et al., 1990; Hewitt & Flett, 1991b; Horney, 1950; Pacht, 1984) and has been supported by research conducted by others (Zuroff et al., 2000). Furthermore, Burns specifically suggested that perfectionists have disturbed personal relationships: a "disclosure phobia" based on "their fear of appearing foolish or inadequate." This is evidenced by the fact that relationship issues are frequently brought to

counseling (Research Consortium of Counseling and Psychological Services in Higher Education, 1994). Burns also implied that perfectionists may have problems in the counseling relationship where disclosure is most often a prerequisite to effective therapeutic interaction.

As Johnson and Slaney (1996) have suggested that it is first important to determine whether the client's perfectionism is maladaptive or adaptive, the PI assesses maladaptive perfectionism as it relates to interference with the therapeutic process, as well as adaptive perfectionism. The PI was developed by Hill and colleagues (2004) as a way of combining two previous measures of perfectionism (Frost et al., 1990; Hewitt & Flett, 1991b) into one scale that captures domains from both previous scales.

Life events. In contemplating what factors might account for a negative therapeutic outcome, it seemed obvious that a significant, negative life event might well account for such. This view is supported by the literature. Recalling that some research points to unanticipated stress (life events) as a casual factor to deterioration in therapy, Wise (2003) reported that negative response in therapy could be attributed to unanticipated acute factors. He reported in his study that these extra-therapeutic stressors were present in 23 of 25 (92%) negatively responding patients. The acute stressors were categorized as medical stressors ($n = 7$; e.g., neurological symptoms, injury, and pain), family stressors ($n = 6$; e.g., divorce, death in family, family conflict), occupational stressors ($n = 6$; e.g., job termination, denial of benefits), and legal stressors ($n = 4$; e.g., eviction, jail sentence, and harassment). These findings suggest an abrupt nature to the negative response process. Assessing life events at the time a person's symptoms have worsened was thought to be a helpful aspect to add to the CST problem-solving strategy for therapist feedback.

Method

Rationale for Current Study

As discussed above, Whipple and colleagues were the first to begin providing feedback to therapists (Lambert, Whipple, et al., 2002). They found that providing feedback improved outcomes for NOT clients. In a follow-up study, Whipple (2003) demonstrated that using an "empirically-based problem-solving strategy" (the CSTs), produced clinically and statistically significant effects for NOT clients. Whipple (2004) also found that feedback to the NOT clients themselves as well as their therapists produced incremental benefits over clients whose therapists only were provided feedback. Harmon and colleagues (2007) replicated both the Whipple and Hawkins studies and used random assignment to the CST condition. As expected, Harmon (2007) found that NOT clients scored lower on most dimensions of social support and therapeutic alliance. Surprisingly, however, she found no difference between the NOT and OT clients on motivation. The combined total of items on the Harmon et al. (2007) clinical support tools (CSTs) measures exceeded 100 items. Given the amount of time it took to answer the existing CST instruments, it was considered impractical to administer on a repeated basis in routine care. As a result, the overall utility of the instruments were somewhat limited.

Slade used a different motivation scale and also added a perfectionism scale. She hypothesized that immediate computer-generated feedback would be superior to time-delayed feedback. Results from the Slade et al. study suggested that the use of the improved CSTs did in fact improve outcome compared to TAU, again replicating the work of Harmon et al. (2007) and Whipple et al. (2003).

Bailey (2008) altered CST administration in several ways: 1) CST administration was offered each session in order to give therapists *repeated* CST feedback, 2) CST administration

was shortened to accommodate the repeated administration, and 3) CST feedback to therapists was enhanced in order to ensure that therapists could more uniformly and quickly utilize feedback data. In his study, Bailey (2008) developed the Assessment for Signal Clients (ASC), a 34-item self-report measure (see Appendix C) that contained items aimed at assessing problems with the therapeutic alliance, motivation, social supports, perfectionism, and stressful life events. This questionnaire was given to 45 randomly selected clients from a large university counseling center at a major university in the western United States. In addition, the ASC was also given to 187 clients identified as Not-on-Track (NOT) at the same counseling center.

Bailey hypothesized that the CST intervention would be more powerful if it were delivered immediately to the therapists in graphic form and in a more appealing format. Although clients in the experimental group did not differ statistically in outcomes from the control group, Bailey's efforts in shortening the CST questionnaire paved the way for additional studies to be done using a more efficient instrument

For purposes of this current study, one major goal was to build on Bailey's efforts and to shorten the 100-plus Harmon et al. (2007) CST questionnaires, while still assessing essentially the same five domains discussed above (therapeutic alliance, motivation for change, social support, perfectionism, and life events). Throughout the course of the study, it was remembered that the abbreviated measure needs to meet two major goals: 1) it needs to be useful clinically in alerting therapists to the maladaptive dimensions of the CST domains in the interest of assisting intervention decisions, and 2) it needs to provide interpretive meaningfulness that results in concrete changes in the ongoing treatment (i.e., establishing cutoff scores that imply that a client's responses depart from a normative level and may require new actions, such as repairing the alliance). This study focuses on the second goal.

In the current study, the 34 items from the ASC were incorporated, along with 17 additional items, into a 51-item Assessment for Signal Clients-Expanded (ASC-E) assessing the same domains (therapeutic alliance, motivation, social supports, perfectionism, and stressful life events). This instrument was then given to 169 clients at a major mental health center in the western United States. In addition, a shortened version was given to 76 students at a major university and to 88 randomly selected residents of a metropolitan area in the western United States. Because the student and community populations were not in therapy, the sections of the instrument applicable to a therapeutic setting (therapeutic alliance and motivation for change) necessarily had to be removed from the shortened version. The other domains (perfectionism, social supports, and stressful live events) were all assessed in the student and community populations. This formed the basis for testing the hypothesis that the responses of the non-clinical population on these scales would be significantly different from the responses of the clinical population.

Statistical analyses were then conducted to determine which of the 51 items to recommend for use in discovering the existence of therapeutic problem areas that might be contributing to a negative therapeutic outcome.

Description of Current Study

Participants. A total of 169 adult clients seeking treatment for personal problems at a large mental health provider in the western United States were asked to fill out a 51-item CST questionnaire when they reported for therapy over a several month period. Only five clients refused to participate (did not give informed consent) during this time period. In addition, 76 non-patient students at a major university volunteered in exchange for extra credit in one of their psychology classes to fill out a 27-item questionnaire (excluding alliance and motivation items)

representing the identical questions in the 51-item questionnaire for social support, perfectionism, and life events. The same 27-item questionnaire was also sent to 150 adults selected at random from a phone book of a particular county. This yielded a total community sample of 88 respondents.

The clients from the mental health center sample ranged in age from 17 to 76 years (*M* = 39.2 years, *SD* = 13.8) and was 69% female, 31% male, 95% Caucasian, 1.4% African American, 1.4% Native American, and 2.2% other ethnicity. Clients were diagnosed at the mental health center; however, because the reliability of these diagnoses is unknown, they are only provided for descriptive purposes. Formal clinical diagnoses included 41.6% mood disorder, 7.2% adjustment disorder, 13.4% anxiety disorder, 4.3% V-code diagnosis, and the rest of the participants (33.5%) received a variety of other diagnoses.

The clients from the student sample ranged in age from 18 to 44 years (*M* = 22.6 years, *SD* =3.2) and was 53.8% female, 46.2% male, 83.8% Caucasian, 3.8% Hispanic, 7.6% Asian, 1.9% African American, and 2.9% other ethnicity. The clients from community sample ranged in age from 24 to 84 years (*M* = 41.3 years, *SD* = 12.8) and was 58.9% female, 41.1% male, 98.9% Caucasian, and 1.1% Hispanic.

Measures: Assessment for Signal Clients (the Bailey measure). The ASC (Bailey, 2008; Appendix C) is a 34-item, self-report measure of psychological functioning related to five domains: therapeutic alliance, motivation for change, social support, life events, and perfectionism. The five domains selected grew out of previous studies done and out of an extensive literature review to try to determine which domains were most likely to capture the reasons a client identified as NOT for a positive therapeutic outcome might be struggling. The items proposed for inclusion in the instrument were reviewed by a group of professional

researchers and academics devoted to outcome research who met weekly under the direction of Dr. Michael Lambert (the "Lambert research group" or "Lambert research team") who relied on their experience in selecting items in prior feedback studies and on informal feedback in arriving at the conclusion to include 34 items in the ASC. Items were measured on a 5-point Likert scale 0 = never, 1 = rarely, 2 = sometimes, 3 = frequently, 4 = almost always. In addition to individual item scores, subscale scores could be calculated for each of the included subscales.

Assessment for Signal Clients—Expanded. The ASC-E (Appendix D) is a 51-item, self-report measure of psychological functioning related to the same five domains assessed by the ASC: therapeutic alliance, motivation for change, social support, life-events, and perfectionism. In fact, all 34 items in the original ASC were included in the ASC-E. An additional 17 items were also included. The additional 17 items were selected based on a literature review to try to determine which domains were most likely to capture the reasons a client deteriorated in therapy. The 17 additional items proposed for inclusion in the instrument were then reviewed by the Lambert research group ("Research Group"). Members of the group had past experience with the original scales used in the past CST interventions as well as the ASC measure. Based on the Research Group's experience in selecting scales for the original CST studies and on informal feedback about problem items, 51 items were included in the ASC-E (Attached as Appendix C). Items are measured on a 5-point Likert scale: 0 = never, 1 = rarely, 2 = sometimes, 3 = frequently, 4 = almost always. As with the ASC, subscale scores can be calculated for each of the five domains.

Assessment for Signal Clients—Redacted. Clearly, the therapeutic alliance and motivation for therapy subscales of the ASC-E are unique to therapy. The other subscales— social support, life events, and perfectionism—are not unique to therapy. The Redacted ASC

(ASC-R; Appendix E) consisted of the 27 items relating to these latter three scales. The

Redacted ASC was the measurement tool provided to the university and general population

samples. Like the ASC-E, items are measured on a 5-point Likert scale: 0 = never, 1 = rarely, 2

= sometimes, 3 = frequently, 4 = almost always.

  Procedure*.* As part of a previous study (Bailey, 2008), the ASC (34 items) was given to

45 randomly selected clients from a large university counseling center at a major university in

the western United States. In addition, the ASC was also given to 187 clients identified as NOT

at the same counseling center. Results of this study were then compared and contrasted to data

collected in the present study.

  Over a four month period, a community mental health center in the western United States

incorporated as treatment as usual the administration of the ASC-E protocol to all adult clients

who came to the center for services. Clients were given the protocol by administrative staff prior

to meeting with the therapist. Clinicians were able to view this information and use it to assist

them in their work with clients. The investigator traveled to the center and collected completed

forms which were given distinct identification numbers. This ensured that the researcher would

not know who the respondents were. Approval was granted by the appropriate IRB after

ensuring that there was no way to connect client identification numbers with names of clients.

  Students were recruited from undergraduate psychology classes to answer the ASC-R and

provide information requested in a demographic information sheet in exchange for extra credit in

the class they were taking. Individuals were instructed not to put their name on the protocol or

demographic sheet. Instead, arbitrary client identification numbers were used to preserve

anonymity. Research assistants provided the protocol and demographic information sheet to the

volunteer students who took approximately 5 minutes to provide the required information. The

research assistants then collected the data for analysis. At the bottom of the form, there was a

box for students currently in therapy or receiving psychoactive medications to check. The

checked forms were then removed before evaluating the remaining forms, thereby increasing the

probability that the norms would be based on a non-clinical population. Five such forms were

removed for students on medication.

Community members participating in the study were selected by calling every 10th name

in an area phonebook to enlist cooperation. A telephone script was used to explain the purpose

of the study and to ask for volunteers to participate in filling out the ASC-R and the demographic

information sheet. No identifying information was placed on the protocols sent. When the

information was mailed back in the self-addressed, stamped envelopes, numbers were placed on

the protocols and demographic information sheet for evaluative purposes. Those agreeing to

participate were sent a new two-dollar bill as an incentive. One hundred fifty mailings were sent

to people agreeing to participate. Eighty-eight people responded to the mailings sent out. The

data were then aggregated for analysis. At the bottom of the form, there was a box for

respondents to check if they were currently in therapy or receiving psychoactive medications.

The checked forms ($n = 5$) were then removed before evaluating the remaining forms, thereby

increasing the probability that the norms represented a non-clinical population.

After the data were collected, the 51 items on the ASC-E were evaluated to try to

determine which ones were "best" in predicting therapeutic problem areas. Preference was given

for items showing the greatest variability. This criterion was important to help avoid an overly

restricted (and therefore uninformative) range of patient responses. Moreover, since scale items

and subscales were to be provided to clinicians through the use of cut scores that indicate a

problematic/non problematic area of concern, it was deemed important that the difference

between these categories be maximized. In addition, items that correlated more highly with the subscale scores were preferred to those with lesser correlations, as were items that distinguished between the clinical and non-clinical populations. Finally, if an item was highly correlated with another item within a subscale, one of the "redundant" items was considered for discarding because it was assumed that the high intercorrelation suggested that both items were picking up the same information. Discarding one of them would meet the goal of brevity without sacrificing reliability. Inter-item correlations were then examined and discussed with an "expert panel" consisting of members of the Lambert research team. Based on all of the above, recommendations for items to be included in a final CST instrument were made. Those recommendations are discussed more fully below.

Results

Results of the data analysis are discussed below in terms of domains assessed by the ASC-E. Admittedly, this section is heavily statistical. It is important, however, for the reader to remember that a great deal of clinical judgment was used in developing the 51-item ASC-E. Many hours of discussion by a group of graduate students, researchers and academics who met weekly under the direction of Dr. Michael Lambert and who were devoted to outcome research led to the creation of the ASC-E. In addition, clinical judgment and the desire to create a clinically useful tool sometimes led to decisions contrary to the decision that would have been made by reference solely to statistics. Against this backdrop of clinical judgment, the statistical analyses presented below guided and shaped the final instrument derived in this study. For one example of clinical judgment overriding a statistics driven result, please see the discussion on p. 32.

Data analysis results will be reported separately for each of the following domains or subscales: therapeutic alliance, social supports, motivation for change, perfectionism, and stressful life events. For each subscale, means and standard deviations for each item are provided. Item response frequencies are then presented to assess the variability of each item. As a general rule, items with greater variability are preferred to those with little variability. An ANOVA was then calculated to determine whether there were differences between the groups assessed on the items of each subscale. Differences are expected between clinical and non-clinical populations on the social support, perfectionism, and life events subscales. As a general rule, items that distinguished between clinical and non-clinical populations were preferred to those that did not. Differences between groups within the clinical population were also evaluated. Post-hoc *t*-tests were done on items identified in the ANOVA as having significant between group differences. The post-hoc *t*-tests revealed where the differences were. An inter-item correlation matrix was done within each of the subscales. Items that correlate more highly with the subscale were, as a general rule, preferred to those with lesser correlations. Finally, an item subscale total statistical analysis was performed to determine the effect on reliability (alpha) of the subscale if one or more items from the subscale were dropped. Items that could be eliminated with little or no reduction in reliability were candidates for deletion from the final instrument.

All of the above factors were considered and recommendations were made about which items to retain and which items to discard in arriving at a final instrument. One of the overarching goals of this study was to create the shortest instrument possible without unduly sacrificing clinical utility and reliability. As a general rule, the shorter the final instrument, the more likely it would be suitable for use by clinicians and their clients.

Therapeutic Alliance

Alliance data were available from the responses of the mental health clients assessed in this study and from the studies done by Bailey (2008) in his pilot and feedback studies. Bailey used eight alliance questions. The current study used the same 8 questions with 3 additional questions for a total of 11 questions. All 11 questions are reproduced immediately below in Table 1. The total maximum score on the alliance subscale is 55 (11 items times the maximum score of 5 on each item). The mean score ($N = 402$) was 47.82, with a standard deviation of 8.15. Cronbach's alpha for the alliance score used by Bailey in his studies was .844. Cronbach's alpha for the expanded alliance scale of 11 items was .879. The means and standard deviations of each group who answered the alliance questions are reproduced below in Table 1. Dashes in the table are used when the group did not respond to the item. For example, dashes are used in the "Kimball Student" and "Kimball Community" columns because these populations were not in therapy and thus were not given therapeutic alliance questions to answer. Similarly, because the Bailey Pilot and Bailey Not-on-Track (NOT) clients were not given questions 9-11 (the therapeutic alliance questions added for this study), the dashes reflect that they did not respond to these questions.

Table 1

Alliance Items Means & Standard Deviations

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		*N* = 170		*N* = 187		*N* = 76		*N* = 88	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. My therapist and I seemed to work well together to accomplish what I want.	4.60	.69	4.60	.68	4.50	1.06	--	--	--	--
2.* At times, the tone of my therapist's voice seemed critical or impatient.	4.53	.87	4.60	.87	4.31	1.21	--	--	--	--
3. I felt my therapist understood me.	4.40	.89	4.44	.78	4.32	1.14	--	--	--	--
4. I felt optimistic about the work my therapist and I were doing together.	4.38	.81	4.30	.81	4.10	1.21	--	--	--	--
5.*I felt there was a breakdown in the relationship with my therapist.	4.56	.89	4.63	.78	4.21	1.35	--	--	--	--
6. I felt cared for and respected as a person.	4.47	.87	4.69	.61	4.54	.92	--	--	--	--
7. I thought the suggestions my therapist made were useful.	4.33	.71	4.42	.73	4.50	.90	--	--	--	--
8. My therapist and I had a similar understanding of my problems.	4.27	.86	4.30	.79	4.23	1.04	--	--	--	--
9. I felt like I could trust my therapist completely.	--	--	--	--	4.44	.97	--	--	--	--
10. I was willing to share my innermost thoughts with my therapist.	--	--	--	--	4.12	1.09	--	--	--	--
11.*I felt like my therapist disapproved of me.	--	--	--	--	4.46	1.14	--	--	--	--

* Reverse scored items

The alliance scale revealed a skewed distribution. In fact, the modal response for all 11 items was "always" (5). Moreover, for items 1, 2, 5, 6, 9, and 11, "always" was the response given by 70% or more of the total respondents. These results strongly suggest that most people in therapy perceived a very strong therapeutic alliance with their therapists. As a result, any score other than a 5 on the items enumerated immediately above (Table 1) would clearly be significant. Frequency tables and histograms for ASC-E items 1-11 are presented below in Tables 2 and 3 respectively.

Table 2

Alliance Items Response Frequencies

Item Response	Item 1		Item 3		Item 4		Item 6	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Disagree	9	2.2	9	2.2	11	2.7	5	1.2
Slightly Disagree	5	1.2	19	4.7	17	4.2	6	1.5
Neutral	29	7.1	26	6.4	48	11.8	27	6.6
Slightly Agree	69	17.0	102	25.1	118	29.0	66	16.2
Strongly Agree	290	71.3	245	60.2	205	50.4	293	72.0

Item Response	Item 7		Item 8		Item 9		Item 10	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Disagree	3	.7	6	1.5	3	1.8	8	4.7
Slightly Disagree	8	2.0	17	4.2	7	4.2	4	2.4
Neutral	36	8.8	39	9.6	19	11.3	31	18.3
Slightly Agree	113	27.8	140	34.4	23	13.7	43	25.4
Strongly Agree	238	58.5	198	48.6	116	69	83	49.1

Item Response	Item 2*		Item 5*		Item 11*	
	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	12	2.9	16	3.9	11	6.5
Slightly Agree	20	4.9	19	4.7	2	1.2
Neutral	30	7.4	31	7.6	16	9.5
Slightly Disagree	43	10.6	38	9.3	9	5.3
Strongly Disagree	295	72.5	294	72.2	131	77.5

*Reverse-scored items.

As can be seen from the tables, the following items showed considerably more variability (i.e., were not as prone to being skewed):

ASC-E Item # 3 – I felt my therapist understood me.

ASC-E Item #4 – I felt optimistic about the work my therapist and I were doing together.

ASC-E Item #7 – I thought the suggestions my therapist made were useful.

ASC-E Item #8 – My therapist and I had a similar understanding of my problems.

ASC-E Item #10 – I was willing to share my innermost thoughts with my therapist.

An ANOVA was performed on the therapeutic alliance data collected from the mental health center evaluated in this study and the Bailey (2008) pilot and feedback studies to determine whether there were any significant differences between groups on the therapeutic alliance items. Obviously, only the eight common questions could be compared using the ANOVA. The results of the ANOVA for items 1-8 are reproduced below in Table 3.

Table 3

ANOVA Results for Alliance Items

ASC-E Item Number

	N	M	SD	Populations*	F	p
1. My therapist and I seemed to work well together to accomplish what I want.	402	4.56	.858	BP, BN, KCl	0.654	0.521
2.** At times, the tone of my therapist's voice seemed critical or impatient.	400	4.47	1.030	BP, BN, KCl	3.606	0.028 †
3. I felt my therapist understood me.	401	4.38	.960	BP, BN, KCl	0.609	0.544
4. I felt optimistic about the work my therapist and I were doing together.	399	4.23	1.002	BP, BN, KCl	2.523	0.082
5.** I felt there was a breakdown in the relationship with my therapist.	398	4.44	1.084	BP, BN, KCl	7.227	0.001 †

ASC-E Item Number

	N	M	SD	Populations*	F	p
6. I felt cared for and respected as a person.	397	4.60	.787	BP, BN, KCl	2.37	0.095
7. I thought the suggestions my therapist made were useful.	398	4.44	.800	BP, BN, KCl	0.972	0.379
8. My therapist and I had a similar understanding of my problems.	400	4.27	.910	BP, BN, KCl	0.241	0.786
9. I felt like I could trust my therapist completely.	168	4.44	.971	KCl	--	--
10. I was willing to share my innermost thoughts with my therapist.	169	4.12	1.090	KCl	--	--
11.**I felt like my therapist disapproved of me.	169	4.46	1.139	KCl	--	--

** = Reverse scored items
† = Statistically significant difference noted.
Items in *italics* were part of the ASC-34 Items used by Bailey

*Bailey-Pilot = BP
Bailey-NOT = BN
Kimball-Clinical = KCl
Kimball-Students = KS
Kimball-Community = KCo

As can been seen in Table 3, significant between group differences were found at the .05 significance level only for items 2 and 5. Post-hoc *t*-tests were done on these two items to determine where the between group differences occurred. The results of the post-hoc *t*-tests are reported below in Table 4.

Table 4

Post Hoc t-test Results for Alliance Items 2 & 5

Item 2	Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical
Bailey-Pilot	4.53	.000	.069	-.220
Bailey-NOT	4.60	-.069	.000	-.289*
Kimball-Clinical	4.31	.220	.289*	.000

Item 5	Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical
Bailey-Pilot	4.56	.000	.077	-.347
Bailey-NOT	4.63	-.077	.000	-.424**
Kimball-Clinical	4.21	.347	.424**	.000

Note: Mean differences calculated by subtracting row means from column means.
* $p = .023$
** $p = .001$

As can be seen by reviewing the results in Table 4, the group differences on both items 2 and 5 existed between the Bailey NOT group and the Kimball clinical group. On both items, the clients in the Bailey NOT group scored higher than the Kimball clinical group. This means that the clients in the Kimball clinical group endorsed a rupture in therapeutic alliance to a significantly higher degree than the Bailey NOT group. This result was somewhat surprising because we expected that the NOT clients would endorse the highest degree of rupture of any of the groups. It appears that the rupture questions were not as effective in distinguishing between NOT clients and on track clients between the Bailey NOT and Kimball clinical groups. It may well be that the mental health center patients, because of their greater degree of psychopathology, are more prone to endorse higher levels of rupture. It was also somewhat surprising that there were not significant differences between the Bailey NOT group and the other clinical groups on the remainder of the therapeutic alliance items. We expected that the NOT group might endorse a significantly lower level of alliance than the other clinical groups.

An inter-item correlation matrix was done on the 11 items of the ASC-E. The primary purpose of this analysis was to see if a high degree of intercorrelation existed between or among items. If so, one of the highly intercorrelated items could be considered for deletion, thus

satisfying the criteria for brevity of the instrument. The results of that matrix are reported in

Table 5 below.

Table 5

Alliance Inter-item Correlations

Item #	1	2	3	4	5	6	7	8	9	10	11
1	1.000	.304	.595	.379	.299	.493	.491	.494	.491	.348	.546
2		1.000	.198	.102	.454	.197	.213	.137	.346	.033	.477
3			1.000	.483	.339	.674	.621	.561	.448	.390	.429
4				1.000	.325	.420	.475	.470	.351	.319	.172
5					1.000	.508	.317	.234	.354	.273	.503
6						1.000	.594	.455	.513	.372	.444
7							1.000	.686	.645	.558	.403
8								1.000	.551	.606	.402
9									1.000	.589	.462
10										1.000	.243
11											1.000

Items 2, 5, and 11 (the "therapeutic rupture" items) had the lowest intercorrelations with other items. Item 7 was the most highly intercorrelated with all other items.

In addition, an item-total statistics analysis was performed to assess the impact of each item's deletion on the value of Cronbach's alpha. The results of this analysis are presented below in Table 6.

Table 6

Item-Total Statistics for Alliance Subscale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	43.30	55.416	.649	.503	.865
Item 2	43.49	58.585	.355	.381	.885
Item 3	43.50	53.405	.688	.613	.862
Item 4	43.70	56.057	.496	.373	.875
Item 5	43.55	54.531	.524	.486	.875
Item 6	43.27	56.059	.688	.602	.864
Item 7	43.31	55.729	.732	.646	.862
Item 8	43.61	54.778	.664	.607	.864
Item 9	43.38	55.313	.693	.588	.863
Item 10	43.72	56.472	.525	.519	.873
Item 11	43.38	54.736	.597	.522	.868

N = 157

Because of the relatively low intercorrelation of the rupture items with all other alliance items, another inter-item correlation matrix was done after dropping the rupture items. The results of that matrix are reported below in Table 7.

Table 7

Item-Total Statistics for Alliance Subscale, Rupture Items Omitted

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	30.28	30.910	.616	.433	.875
Item 3	30.48	28.783	.714	.611	.865
Item 4	30.68	30.460	.537	.313	.885
Item 6	30.26	31.297	.658	.521	.872
Item 7	30.29	30.422	.780	.642	.861
Item 8	30.59	29.408	.731	.589	.863
Item 9	30.35	30.723	.671	.540	.870
Item 10	30.70	30.579	.590	.470	.878

It is worth noting that Cronbach's alpha would increase to .886 if the rupture items were eliminated. Item 4 appears to be a weaker item, with a higher alpha value estimated if item 4 were to be deleted.

Based on the above information, I recommend that items 4 and 11 be eliminated. Items 4 and 11 have relatively low intercorrelations with the other therapeutic alliance items. While the argument could be made to eliminate all rupture items because the resulting instrument would be both briefer and more reliable, Safran and Muran (1996) have argued that rupture in therapeutic alliance can actually be useful to the overall therapeutic relationship if the rupture is identified and quickly worked through. Thus, retaining those items seems to be justified by their potential clinical utility. If items 4 and 11 are omitted, the therapeutic alliance subscale would consist of 9

items. The maximum possible on the subscale would be 45. The mean alliance (N=9) score is

39.29, with a variance of 44.121 and a standard deviation value of 6.642. Cronbach's alpha for

this 9-item subscale is .858. The item statistics for each item are presented below in Table 8.

Note that the *N* value is 160 because the subscale value can be calculated only by using Kimball

clinical participants who answered all the questions. Because the two Bailey groups did not

answer the ASC-E (which included new items 9-11), their responses cannot be used to calculate

subscale scores.

Table 8

Final Alliance Subscale Items Statistics

	Mean	Std. Deviation	N
asce1	4.53	1.021	160
asce2	4.34	1.177	160
asce3	4.33	1.152	160
asce5	4.25	1.327	160
asce6	4.56	.916	160
asce7	4.51	.897	160
asce8	4.22	1.062	160
asce9	4.45	.976	160
asce10	4.11	1.102	160

A subscale cutoff score was established to serve as a signal to notify the clinician if a

client's overall therapeutic alliance subscale score falls below a meaningful threshold. Given the

significant response bias that exists in the therapeutic alliance items, the cutoff score will have to

be quite high to avoid over-signaling a problem. From the sample, 80% of respondents scored a 36 or higher. Thus, the cutoff score for alliance was set at 36. Any score lower than 36 will be used to serve as a signal to the clinician that therapeutic alliance should be carefully examined as a potential source for clients not making expected progress in therapy.

Using Table 2 above (Alliance Items Response Frequencies) it is also possible to establish cutoff scores for each individual item that will allow a therapist to quickly ascertain whether any given item score falls below an expected value and thus gives rise to a potential concern. The cutoff scores are established to try to reflect a response that is lower than approximately 80% of the respondents who answered the questions in this study. Because whole ordinal numbers are assigned to the various responses, 20% cannot be used as an exact cutoff. It is not possible, for example, for a patient to score an item at a 3.76. The answer that she or he gives must be scored either a 3 or a 4. As a result, individual item cutoff scores were set using the number that came closest to the score endorsed by 20% or less of the population answering the question. Using this as a guideline, the cutoff scores for each of the items is set forth below in Table 9.

Table 9

Alliance Items Cutoff Scores

ASC-E Item Number	Cutoff Score
1. My therapist and I seemed to work well together to accomplish what I want.	4
2.** At times, the tone of my therapist's voice seemed critical or impatient.	4
3. I felt my therapist understood me.	3
5.** I felt there was a breakdown in the relationship with my	4

ASC-E Item Number	Cutoff Score
therapist.	
6. I felt cared for and respected as a person.	4
7. I thought the suggestions my therapist made were useful.	3
8. My therapist and I had a similar understanding of my problems.	3
9. I felt like I could trust my therapist completely.	3
10. I was willing to share my innermost thoughts with my therapist.	3

Social Support

Social support data were available from the responses of five different sources: 1 and 2) the Bailey pilot and Bailey NOT studies (2008), which used eight social support questions, 3) the responses of the mental health clients (the Kimball clinical group) assessed in this study, 4) students from a major university (the Kimball student group), and 5) randomly selected residents of Utah County (the Kimball community group). The latter three groups answered 13 social support questions (the same 8 from the Bailey study plus an additional 5 questions—the new questions are 20-24 of Table 10 below), The total sample size for items 12-19 was 565, broken down as follows: Bailey pilot study ($N = 45$), Bailey NOT ($N = 187$), Kimball clinical ($N = 169$), Kimball students ($N = 76$) and Kimball community ($N = 88$). The total sample size for the additional items (items 20-24) was 334, broken down as follows: Kimball clinical ($N = 170$), Kimball students ($N = 76$) and Kimball community ($N = 88$). The total maximum score on the alliance sub-scale is 65 (13 items times the maximum score of 5 on each item). The mean score ($N = 334$) was 48.96, with a standard deviation of 9.9. Cronbach's alpha for of the social support subscale is .909.

The means and standard deviations of each group who answered the alliance questions are reproduced below in Table 10. As above, dashes are used to signify that the respective group

did not answer the item. In the social support items, the Bailey pilot and Bailey NOT groups did

not answer the additional items (20-24) added to the ASC-E for the purposes of this study.

Table 10

Social Support Items Means & Standard Deviations

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		*N* = 170		*N* = 187		*N* = 76		*N* = 88	
	M	*SD*	*M*	*SD*	*M*		*M*	*SD*	*M*	*SD*
12. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)	4.02	1.033	4.18	1.048	3.77	1.379	4.68	.697	4.74	.703
13. I had support from social groups (like: church, school, AA, clubs, etc.)	3.36	1.190	3.32	1.142	3.24	1.607	4.14	1.104	4.57	.936
14.There was a special person who was around when I was in need.	3.62	1.451	3.28	1.386	4.04	1.203	4.18	1.029	4.66	.662
15. There was a special person with whom I could share my joys and sorrows.	3.67	1.348	3.32	1.369	3.93	1.268	4.18	1.151	4.71	.730
16. I got the emotional help and support I needed from someone in my family.	3.20	1.408	3.40	1.342	3.53	1.484	4.11	1.150	4.67	.707
17. I could count on my friendships when things went wrong.	2.84	1.331	3.24	1.236	3.49	1.398	3.80	1.197	4.43	.956
18. I could talk about problems with someone	3.18	1.571	3.24	1.456	3.34	1.459	4.08	1.175	4.56	.869

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		N = 170		N = 187		N = 76		N = 88	
	M	SD	M	SD	M		M	SD	M	SD
in my family.										
19. I could talk about problems with my friends.	2.76	1.384	3.20	1.241	3.37	1.503	3.91	1.098	4.26	.994
20. I felt accepted by someone other than my therapist.	--	--	--	--	3.98	1.236	4.59	.803	4.77	.541
21. I felt more connected to a higher power.	--	--	--	--	3.91	1.267	4.32	1.098	4.76	.606
22.**Some subjects were so sensitive I couldn't talk with anyone about them.	--	--	--	--	2.56	1.495	2.99	1.351	3.41	1.573
23.**I kept personal problems to myself.	--	--	--	--	2.69	1.355	2.78	1.239	3.16	1.413
24.**I felt betrayed by someone important to me.	--	--	--	--	3.14	1.601	3.84	1.347	4.08	1.510

** = Reverse scored items

While some skewedness existed in the social support items, the responses were considerably closer to a normal distribution than the alliance items. The social support items showed considerably more variation than did the alliance scale items, likely due to the predictable differences between the clinical and non-clinical populations to access social support. Social support item response frequencies for the social support items – items 12-24 – are presented below in Table 11.

Table 11

Social Support Items Response Frequencies

	Strongly Disagree		Slightly Disagree		Neutral		Slightly Agree		Strongly Agree	
Item	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
12	29	7.1	19	4.7	62	15.2	106	26.0	183	45.0
13	56	13.8	62	15.2	85	20.9	100	24.6	94	23.1
14	45	11.1	48	11.8	57	14.0	108	26.5	142	34.9
15	44	10.8	48	11.8	64	15.7	106	26.0	139	34.2
16	57	14.0	59	14.5	57	14.0	109	26.8	119	29.2
17	51	12.5	67	16.5	85	20.9	107	26.3	92	22.6
18	67	16.5	76	18.7	52	12.8	92	22.6	114	28.0
19	61	15.0	70	17.2	72	17.7	109	26.8	88	21.6
20	13	7.7	8	4.8	27	16.1	41	24.4	79	47.0
21	12	7.1	12	7.1	35	20.7	30	17.8	80	47.3
22	60	35.5	34	20.1	24	14.2	23	13.6	28	16.6
23	40	23.5	44	25.9	39	22.9	22	12.9	25	14.7
24	41	24.3	24	14.2	32	18.9	14	8.3	58	34.3

Significant differences were expected between the clinical and non-clinical samples. The assumption was that the non-clinical population would have considerably more social support available to them than the clinical population. An ANOVA was performed on the data to assess differences between the various groups on all social support questions. The results of the ANOVA are presented below in Table 12.

Table 12

ANOVA Results for Social Support Items

ASC-E Item Number	N	M	SD	Populations*	F	p
12. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)	563	4.20	1.134	All Groups	16.255	<0.001†
13. I had support from social groups (like: church, school, AA, clubs, etc.)	560	3.60	1.364	All Groups	22.451	<0.001†
14. There was a special person who was around when I was in need.	563	3.87	1.295	All Groups	23.112	<0.001†
15. There was a special person with whom I could share my joys and sorrows.	564	3.86	1.314	All Groups	21.224	<0.001†
16. I got the emotional help and support I needed from someone in my family.	565	3.72	1.373	All Groups	19.155	<0.001†
17. I could count on my friendships when things went wrong.	565	3.55	1.326	All Groups	18.163	<0.001†
18. I could talk about problems with someone in my family.	565	3.58	1.441	All Groups	19.259	<0.001†
19. I could talk about problems with my friends.	564	3.48	1.354	All Groups	16.208	<0.001†
20. I felt accepted by someone other than my therapist.	332	4.33	1.059	KCl, KS, KCo	21.415	<0.001†
21. I felt more connected to a higher power.	333	4.23	1.144	KCl, KS, KCo	17.918	<0.001†
22.**Some subjects were so sensitive I couldn't talk with anyone about them.	333	2.88	1.524	KCl, KS, KCo	2.347	0.097
23.**I kept personal problems to myself.	334	2.84	1.356	KCl, KS, KCo	0.362	0.697

ASC-E Item Number	N	M	SD	Populations*	F	p
24.**I felt betrayed by someone important to me.	333	3.55	1.576	KCl, KS, KCo	34.442	<0.001†

** = Reverse scored items	*Bailey-Pilot = BP
† = Statistically significant differences noted for each item.	Bailey-NOT = BN
Items in *italics* were part of the ASC-34 Items used by Bailey	Kimball-Clinical = KCl
	Kimball-Students = KS
	Kimball-Community = KCo

As can be seen in Table 12, significant between group differences were seen on ALL items except 22 and 23. Post-hoc *t*-tests were done on all items with significant between group differences to determine which groups accounted for the significant differences. The results of the post-hoc t-tests are reported below in Table 13.

Table 13

Post Hoc test Results for Social Support Items

Item 12: I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	4.02	.000	-.155	-.248	.662*	.716*
Bailey-NOT	4.18	.155	.000	-.404*	.507*	.561*
Kimball-Clinical	3.77	.248	.404*	.000	-.910*	-.965*
Kimball-Students	4.68	-.662*	-.507*	.910*	.000	.054
Kimball-Community	4.74	-.716*	-.561*	.965*	-.054	.000

Item 13. I had support from social groups (like: church, school, AA, clubs, etc.)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.36	.000	-.040	-.119	.789*	1.219*
Bailey-NOT	3.32	.040	.000	-.079	.829*	1.259*
Kimball-Clinical	3.24	.119	.079	.000	.908*	1.338*
Kimball-Students	4.14	-.789*	-.829*	.908*	.000	.430
Kimball-Community	4.57	-1.219*	-1.259*	-1.338*	-.430	.000

Item 14: There was a special person who was around when I was in need.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.62	.000	-.344	.413	.562	1.033*
Bailey-NOT	3.28	.344	.000	.758*	.906*	1.377*
Kimball-Clinical	4.04	-.413	-.758*	.000	.148	.619*
Kimball-Students	4.18	-.562	-.906*	-.148	.000	.471
Kimball-Community	4.66	-1.033*	-1.377*	-.619*	-.471	.000

Item 15: There was a special person with whom I could share my joys and sorrows.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.67	.000	-.346	.268	.518	1.046*
Bailey-NOT	3.32	.346	.000	.614*	.863*	1.392*
Kimball-Clinical	3.93	-.268	-.614*	.000	.249	.778*
Kimball-Students	4.18	-.518	-.863*	-.249	.000	.528*
Kimball-Community	4.71	-1.046*	-1.392*	-.778*	-.528*	.000

Item 16: I got the emotional help and support I needed from someone in my family.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.20	.000	.201	.333	.905*	1.470*
Bailey-NOT	3.40	-.201	.000	.131	.704*	1.269*
Kimball-Clinical	3.53	-.333	-.131	.000	.573*	1.138*
Kimball-Students	4.11	-.905*	-.704*	-.573*	.000	.565*
Kimball-Community	4.67	-1.470*	-1.269*	-1.138*	-.565*	.000

Item 17: I could count on my friendships when things went wrong.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.84	.000	.396	.650*	.956*	1.587*
Bailey-NOT	3.24	-.396	.000	.253	.559*	1.191*
Kimball-Clinical	3.49	-.650*	-.253	.000	.306	.938*
Kimball-Students	3.80	-.956*	-.559*	-.306	.000	.632*
Kimball-Community	4.43	-1.587*	-1.191*	-.938*	-.632*	.000

Item 18: I could talk about problems with someone in my family.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.18	.000	.063	.160	.901*	1.379*
Bailey-NOT	3.24	-.063	.000	.097	.838*	1.316*
Kimball-Clinical	3.34	-.160	-.097	.000	.742*	1.220*
Kimball-Students	4.08	-.901*	-.838*	-.742*	.000	-.478
Kimball-Community	4.56	-1.379*	-1.316*	-1.220*	.478	.000

Item 19: I could talk about problems with my friends.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.76	.000	.448	.617*	1.152*	1.509*
Bailey-NOT	3.20	-.448	.000	.170	.705*	1.061*
Kimball-Clinical	3.37	-.617*	-.170	.000	.535*	.892*
Kimball-Students	3.91	-1.152*	-.705*	-.535*	.000	.356
Kimball-Community	4.26	-1.509*	-1.061*	-.892*	-.356	.000

Item 20: I felt accepted by someone other than my therapist.

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	3.98	.000	.610*	.791*
Kimball-Students	4.59	-.610*	.000	.181
Kimball-Community	4.77	-.791*	-.181	.000

Item 21: I felt more connected to a higher power.

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	3.91	.000	.405*	.850*
Kimball-Students	4.32	-.405*	.000	. 446*
Kimball-Community	4.76	-.850*	-.446*	.000

Item 24: I felt betrayed by someone important to me. (Reverse scored)

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	3.14	.000	.700*	.938*
Kimball-Students	3.84	-.700*	.000	.237
Kimball-Community	4.08	-.938*	-.237	.000

As can be seen by reviewing Table 13, the expected differences between clinical and non-clinical populations accounted for many, but not all, of the between group differences. Six of the items (12, 13, 18, 19, 20, and 24) followed the expected pattern. For all of these items, there were significant differences between the clinical and non-clinical populations and insignificant differences between the non-clinical student and community populations. On item 14, there was a significant difference between the Kimball community group and each of the clinical groups, but there was not a significant difference between the Kimball students and the Bailey pilot and Kimball clinical responses. On items 22 and 23, there was s significant difference between the Kimball community group and the Kimball clinical group but there was NO significant difference between the Kimball students and the Kimball clinical group on these items. Similarly, on items 15, 16, 17, and 21 the Kimball community population differed significantly from each clinical group or groups; interestingly, however, there was also a significant difference between the Kimball community and Kimball student populations. On each of these items, the Kimball community population endorsed significantly higher levels of social support than the students. This may be because many students are far from home and struggle with social support issues to a greater degree than typical community members.

An inter-item correlation matrix was done on the 13 social support items of the ASC-E. The primary purpose of this analysis was to see if there was a high degree of intercorrelation between or among items. If there was one, the highly intercorrelated items could be considered for deletion, thus satisfying the criteria for brevity of the instrument. The results of that matrix are reported below in Table 14.

Table 14

Social Support Inter-item Correlations

Item #	12	13	14	15	16	17	18	19	20	21	22	23	24
12	1.000	.469	.386	.336	.376	.408	.393	.386	.490	.275	.052	.142	.067
13	.469	1.000	.353	.350	.320	.471	.353	.460	.399	.503	.125	.120	-.015
14	.386	.353	1.000	.778	.429	.546	.471	.505	.590	.370	.027	.108	-.012
15	.336	.350	.778	1.000	.444	.566	.492	.543	.538	.414	.086	.150	-.038
16	.376	.320	.429	.444	1.000	.437	.774	.343	.477	.437	.080	.093	-.013
17	.408	.471	.546	.566	.437	1.000	.468	.767	.524	.421	.061	.143	.054
18	.393	.353	.471	.492	.774	.468	1.000	.452	.524	.416	.089	.070	-.022
19	.386	.460	.505	.543	.343	.767	.452	1.000	.548	.338	.081	.195	.032
20	.490	.399	.590	.538	.477	.524	.524	.548	1.000	.440	.140	.131	.063
21	.275	.503	.370	.414	.437	.421	.416	.338	.440	1.000	.084	.081	-.030
22	.052	.125	.027	.086	.080	.061	.089	.081	.140	.084	1.000	.494	.263
23	.142	.120	.108	.150	.093	.143	.070	.195	.131	.081	.494	1.000	.225
24	.067	-.015	-.012	-.038	-.013	.054	-.022	.032	.063	-.030	.263	.225	1.000

In addition, an item-total statistical analysis was performed to assess the impact of each item's deletion on the value of Cronbach's alpha. The results of this analysis are presented below in Table 15.

Table 15

Item-Total Statistics for Social Support Subscale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 12	44.71	85.316	.518	.369	.822
Item 13	45.12	82.134	.530	.428	.820
Item 14	44.70	84.790	.618	.659	.817
Item 15	44.73	83.376	.633	.661	.815
Item 16	44.98	82.414	.572	.633	.817
Item 17	45.13	80.321	.677	.658	.810
Item 18	45.11	81.010	.613	.656	.814
Item 19	45.22	80.437	.643	.653	.812
Item 20	44.61	83.927	.675	.535	.814
Item 21	44.72	85.898	.510	.392	.822
Item 22	46.31	89.368	.226	.299	.844
Item 23	46.22	89.071	.281	.292	.838
Item 24	45.99	92.503	.083	.109	.860

As can be seen by reviewing the tables above, items 22, 23, and 24 have a very low correlation with the other items in the subscale. Moreover, items 22 and 23 failed to distinguish

between clinical and non-clinical populations. Item 24 seems almost more like a life event

question and is likely picked up by the life events questions. For these reasons, items 22-24 were

deleted in the final social support scale. This resulted in a 10-item social support scale with a

maximum possible score of 50. Cronbach's alpha for the final scale was .892. The social

support mean score (N=10) is 40.62, with a variance of 78.851 and a standard deviation value of

8.88. The item statistics for each of the social support subscale items are set forth below in Table

16.

Table 16

Social Support Items-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
asce12	36.37	67.196	.530	.350	.888
asce13	36.78	64.021	.556	.410	.888
asce14	36.35	66.033	.678	.656	.880
asce15	36.38	64.889	.683	.656	.879
asce16	36.63	63.904	.620	.633	.883
asce17	36.78	62.228	.719	.656	.876
asce18	36.76	62.436	.672	.654	.879
asce19	36.87	62.543	.671	.647	.879
asce20	36.26	65.857	.699	.525	.879
asce21	36.38	67.223	.551	.383	.887

A subscale cutoff score now must be established that will serve to signal or notify the

clinician if a client's overall social support subscale score falls below a meaningful threshold.

The optimal subscale cutoff score is one that can signal the clinician when the client's score is lower than 80% of the population sampled in this study. In other words, the cutoff score will be that score that would put the client in the lowest quintile. Using this as a guide, the cutoff score for the social support subscale will be a score of less than 30; a score below 30 represents 21.2% of respondents.

Using Table 11 above it is also possible to establish cutoff scores for each individual item that will allow a therapist to quickly ascertain whether any given item score falls below an expected value and thus gives rise to a potential concern. The cutoff scores are established to try to reflect a response that is lower than approximately 80% of the respondents who answered the questions in this study. Because whole ordinal numbers are assigned to the various responses, 20% cannot be used as an exact cutoff. It is not possible, for example, for a patient to score an item at a 3.76. The answer that she or he gives must be scored either a 3 or a 4. As a result, individual item cutoff scores will be set using the number that comes closest to the score endorsed by 20% or less of the population answering the question. Using this as a guideline, the cutoff scores for each of the items is set forth below in Table 17.

Table 17

Social Support Items Cutoff Scores

ASC-E Item Number	Cutoff Score
12. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)	3
13. I had support from social groups (like: church, school, AA, clubs, etc.)	2
14. There was a special person who was around when I was in need.	2

ASC-E Item Number	Cutoff Score
15. There was a special person with whom I could share my joys and sorrows.	2
16. I got the emotional help and support I needed from someone in my family.	2
17. I could count on my friendships when things went wrong.	2
18. I could talk about problems with someone in my family.	1
19. I could talk about problems with my friends.	1
20. I felt accepted by someone other than my therapist.	3
21. I felt more connected to a higher power.	2

Motivation for Change

Motivation for change data were available from the responses of the mental health clients assessed in this study and from the studies done by Bailey (2008) in his pilot and NOT studies. Bailey used seven motivation for change questions. The present study used the same 7 questions with 6 additional questions for a total of 13 questions. The 6 new questions are questions 32-37 (see Table 18 below). The total maximum score on the alliance subscale is 65 (13 items times the maximum score of 5 on each item). The mean score ($N = 159$) for the community mental health clients was 52.88 with a standard deviation of 8.98. Cronbach's alpha for the alliance score when all 13 items were used was .826. This represented an improvement over the Chronbach's alpha for the Bailey pilot study (.743) and the Bailey feedback study (.728). In addition, for comparative purposes, the responses of the mental health clients to the original seven items contained in the Bailey studies were also evaluated. Chronbach's alpha when

considering only these seven questions was .706. The group means and standard deviations for

each item are reproduced below in Table 18. As above, dashes are used when a group did not

answer the item in question. Thus, dashes are used for "Kimball student" and "Kimball

community" columns for all 13 items (items 25-37) because these groups were not in therapy

and thus could not answer these questions. Similarly, because the Bailey Pilot and Bailey NOT

clients were not given questions 32-37 (the motivation for change questions added for this

study), the dashes reflect that they did not respond to these questions.

Table 18

Motivation Items Means & Standard Deviations

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	$N = 45$		$N = 170$		$N = 187$		$N = 76$		$N = 88$	
	M	*SD*	*M*	*SD*	*M*		*M*	*SD*	*M*	*SD*
25.*I wonder what I am doing in therapy; actually I find it boring.	4.44	.693	4.45	.905	4.36	1.035	--	--	--	--
26.*Honestly, I don't really understand what I can get from therapy.	4.51	.787	4.29	.940	4.27	1.167	--	--	--	--
27. I am in therapy because I want to make changes to my current situation.	4.84	.367	4.81	.492	4.34	1.109	--	--	--	--
28.*I am in therapy because other people think it is a good idea.	3.04	1.381	2.90	1.322	3.16	1.506	--	--	--	--
29.*I am not really sure what to work on in therapy.	3.47	1.217	3.18	1.260	3.50	1.444	--	--	--	--
30. Through therapy I am taking more responsibility for changing my life.	4.16	.824	4.05	.851	4.18	1.057	--	--	--	--
31.*I had thoughts about quitting therapy; it's just not for me.	4.07	1.074	4.15	1.135	4.27	1.168	--	--	--	--

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		*N* = 170		*N* = 187		*N* = 76		*N* = 88	
	M	*SD*	*M*	*SD*	*M*		*M*	*SD*	*M*	*SD*
32.*I don't think therapy will help me get feel any better.	--	--	--	--	4.29	1.157	--	--	--	--
33.*I have no desire to work out my problems.	--	--	--	--	4.60	.901	--	--	--	--
34. I had some insights that I believe will help me make progress.	--	--	--	--	3.89	1.157	--	--	--	--
35.*Although I am currently unhappy with my life, there is nothing I can do about it now.	--	--	--	--	3.79	1.443	--	--	--	--
36.*I don't seem to care what happens to me.	--	--	--	--	4.04	1.360	--	--	--	--
37.*I am in therapy because someone is requiring it of me.	--	--	--	--	4.12	1.223	--	--	--	--

The motivation for change scale revealed some skewed items and some with a more normal distribution of responses. Item response frequencies for ASC-E items 25-37 are presented below in Table 19.

Table 19

Motivation Items Response Frequencies

Item Response	Item 25*		Item 26*		Item 28*		Item 29*		Item 31*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	5	1.2	9	2.2	63	15.5	35	8.6	17	4.2
Slightly Agree	20	4.9	24	5.9	105	25.8	101	24.8	26	6.4
Neutral	38	9.3	41	10.1	82	20.1	63	15.5	50	12.3
Slightly Disagree	79	19.4	86	21.1	52	12.8	93	22.9	79	19.4
Strongly Disagree	258	63.4	238	58.5	94	23.1	108	26.5	229	56.3

Item Response	Item 32*		Item 33*		Item 35*		Item 36*		Item 37*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	8	4.8	4	2.4	19	11.3	15	8.9	9	5.4
Slightly Agree	8	4.8	3	1.8	20	11.9	13	7.7	9	5.4
Neutral	22	13.2	14	8.4	21	12.5	23	13.6	35	20.8

	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Slightly Disagree	19	11.4	14	8.4	25	14.9	17	10.1	15	8.9
Strongly Disagree	110	65.9	131	78.9	83	49.4	101	59.8	100	59.5

Item Response	Item 27		Item 30		Item 34	
	Freq.	%	Freq.	%	Freq.	%
Strongly Disagree	11	2.7	9	2.2	12	7.2
Slightly Disagree	3	0.7	13	3.2	5	3.0
Neutral	18	4.4	63	15.5	34	20.4
Slightly Agree	67	16.5	153	37.6	54	32.3
Strongly Agree	303	74.4	162	39.8	62	37.1

* Reverse scored items

As can be seen in reviewing Table 19, there was a significant skew in the responses to items 25, 26, 27, 31, 32, 33, and 35. For each of these items, the modal response was a 5 (or a 1 for reverse scored items). By contrast, items 28, 29, 30, and 34 showed much greater distribution in responses and were far less skewed. As a general rule, more variability in responses to items is preferred, all else being equal, because it diminishes the response bias associated with a more skewed response.

An ANOVA was performed on the motivation for change data collected from the mental health center evaluated in this study and the Bailey pilot and NOT studies to determine whether there were any significant differences between groups on these items. Obviously, only the seven common questions could be compared using the ANOVA because there was no other group to compare to when evaluating the new items given only to the Kimball clinical group. The results of the ANOVA for items 25 to 31 are reproduced below in Table 20.

Table 20

ANOVA Results for Motivation Items

ASC-E Item Number

	N	M	SD	Populations*	F	P
25.**I wonder what I am doing in therapy; actually I find it boring.	400	4.41	.941	BP, BN, KCl	0.399	0.671
26.**Honestly, I don't really understand what I can get from therapy.	398	4.31	1.027	BP, BN, KCl	1.02	0.362
27. I am in therapy because I want to make changes to my current situation.	402	4.61	.838	BP, BN, KCl	17.412	<0.001 †
28.**I am in therapy because other people think it is a good idea.	396	3.02	1.410	BP, BN, KCl	1.498	0.225
29.**I am not really sure what to work on in therapy.	400	3.35	1.342	BP, BN, KCl	2.806	0.062

ASC-E Item Number

	N	M	SD	Populations*	F	P
30. Through therapy I am taking more responsibility for changing my life.	400	4.12	.940	BP, BN, KCl	0.898	0.408
31.**I had thoughts about quitting therapy; it's just not for me.	400	4.19	1.142	BP, BN, KCl	0.755	0.471

** = Reverse scored items
† = Statistically significant differences noted for each item.
Note: Items in *italics* were part of the ASC-34 Items used by Bailey

*Bailey-Pilot = BP
Bailey-NOT = BN
Kimball-Clinical = KCl
Kimball-Students = KS
Kimball-Community = KCo

The only significant between group difference was on item 27 ("I am in therapy because I want to make changes to my current situation"). A post-hoc analysis reflected that there was a significant difference between the community mental health clients and the Bailey pilot and feedback studies. Both the Bailey groups had significantly higher scores on this item, indicating that they had a significantly greater desire to make changes in their current situation than the Kimball clinical group. The results of the post-hoc *t*-test for item 27 is reported below in Table 21.

Table 21

Post Hoc t-test Results for Motivation Item 27

Item 27: I am in therapy because I want to make changes to my current situation.

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical
Bailey-Pilot	4.84	.000	-.037	-.509*
Bailey-NOT	4.81	.037	.000	-.472*
Kimball-Clinical	4.34	.509*	.472*	.000

*p = .001

An inter-item correlation matrix was done comparing the correlation of all items in the community mental health population. The matrix is produced below in Table 22.

Table 22

Motivation Inter-item Correlations

Item #	25	26	27	28	29	30	31	32	33	34	35	36	37
25	1.00	.722	.226	.187	.360	.215	.478	.542	.329	.165	.283	1.000	.722
26		1.00	.166	.223	.378	.285	.570	.788	.244	.156	.347	.722	1.000
27			1.00	-.011	.038	.353	.203	.227	.159	.179	.174	.226	.166
28				1.00	.155	.025	.279	.220	.250	.055	.101	.187	.223
29					1.00	.120	.343	.370	.165	.201	.330	.360	.378
30						1.00	.299	.310	.153	.359	.273	.215	.285
31							1.00	.643	.412	.246	.404	.478	.570
32								1.00	.373	.278	.438	.542	.788
33									1.00	.246	.383	.329	.244
34										1.00	.388	.165	.156
35											1.00	.283	.347
36												1.00	.281
37													1.00

In addition, an item-total statistics analysis was performed to assess the impact of each item's deletion on the value of Cronbach's alpha. The results of this analysis are presented below in Table 23.

Table 23

Item-Total Statistics for Motivation Subscale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 25	48.51	69.758	.581	.580	.807
Item 26	48.61	66.771	.663	.770	.800
Item 27	48.54	74.490	.260	.201	.828
Item 28	49.74	71.563	.266	.177	.834
Item 29	49.37	68.602	.420	.233	.819
Item 30	48.67	72.880	.378	.273	.820
Item 31	48.58	67.283	.657	.496	.801
Item 32	48.59	65.496	.744	.736	.794
Item 33	48.27	72.793	.478	.331	.815
Item 34	48.97	71.911	.377	.252	.821
Item 35	49.11	65.666	.542	.374	.808
Item 36	48.85	69.471	.413	.273	.819
Item 37	48.75	69.629	.468	.309	.814

Based on Table 23, it is clear that items 27, 28, 30 and 34 have the lowest correlations with the subscale score. Item 27, however, is the only item that has any significant between group differences. Although it is currently unclear why that difference exists, item 27 was retained because it distinguished between the two groups. Items 28, 30 and 34 were discarded. As a result, the final motivation subscale consisted of 10 items. The subscale maximum is 50. Cronbach's alpha for the final motivation subscale is .823. The motivation subscale (N=10) mean is 41.71, with a variance of 55.308 and a standard deviation value of 7.437.

Table 24

Motivation Items-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
asce25	37.33	45.974	.609	.577	.799
asce26	37.42	43.504	.693	.757	.789
asce27	37.35	50.402	.239	.106	.832
asce29	38.17	45.044	.429	.227	.818
asce31	37.44	44.679	.602	.428	.798
asce32	37.41	42.626	.766	.729	.781
asce33	37.09	48.985	.462	.309	.813
asce35	37.91	43.079	.532	.333	.806
asce36	37.66	46.054	.407	.271	.819
asce37	37.58	46.443	.447	.261	.814

A subscale cutoff score now must be established that will serve to signal or notify the clinician if a client's overall motivation for therapy subscale score falls below a meaningful threshold. The optimal subscale cutoff score will be one that will signal to the clinician when the client's score is lower than 80% of the population sampled in this study. In other words, the cutoff score will be that score that would put the client in the lowest quintile. Using this as a guide, the cutoff score for the motivation for therapy subscale will be 37, so any score 36 or below (21.5% of study sample) would be flagged.

Using Table 19 above, it is also possible to establish cutoff scores for each individual item that will allow a therapist to quickly ascertain whether any given item score falls below an expected value and thus gives rise to a potential concern. The cutoff scores are established to try to reflect a response that is lower than approximately 80% of the respondents who answered the questions in this study. Because whole ordinal numbers are assigned to the various responses, 20% cannot be used as an exact cutoff. It is not possible, for example, for a patient to score an

item at a 3.76. The answer that she or he gives must be scored either a 3 or a 4. As a result,

individual item cutoff scores were set using the number that comes closest to the score endorsed

by 20% or less of the population answering the question. Using this as a guideline, the cutoff

scores for each of the items is set forth below in Table 25.

Table 25

Motivation Items Cutoff Scores

ASC-E Item Number	Cutoff Score
25.**I wonder what I am doing in therapy; actually I find it boring.	3
26.**Honestly, I don't really understand what I can get from therapy.	3
27. I am in therapy because I want to make changes to my current situation.	4
29.**I am not really sure what to work on in therapy.	2
31.**I had thoughts about quitting therapy; it's just not for me.	3
32.**I don't think therapy will help me get feel any better.	3
33.**I have no desire to work out my problems.	4
35.**Although I am currently unhappy with my life, there is nothing I can do about it now.	2
36.**I don't seem to care what happens to me.	2
37.**I am in therapy because someone is requiring it of me.	3

Perfectionism

Perfectionism data were available from the responses of five different sources: 1) the

Bailey pilot group ($N = 45$, 2) the Bailey NOT group ($N = 187$), 3) the responses of the mental

health clients assessed in this study (the "Kimball clinical" group, $N = 158$), 4) students from a

major university (the "Kimball student" group, $N = 76$), and 5) randomly selected residents from

Utah County (the "Kimball community" group, $N = 88$). All groups answered the same five

questions related to perfectionism (see items 38 to 42 in Table 23 below. The total maximum

score on the perfectionism subscale is 25 (5 items times the maximum score of 5 on each item).

Cronbach's alpha for the 5-item perfectionism subscale was .857. Group means and standard

deviations are reported below for all perfectionism items ($N = 554$) in Table 26 below.

Table 26

Perfectionism Items Means & Standard Deviations

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		N = 170		N = 187		N = 76		N = 88	
	M	SD	M	SD	M	SD	M	SD	M	SD
38.**I spent a good deal of time worrying about other people's opinions about me.	2.24	1.317	2.31	1.191	3.09	1.555	3.17	1.310	3.93	1.220
39.**I was particularly embarrassed by failure.	2.29	1.121	2.50	1.288	2.90	1.565	3.39	1.276	4.10	1.223
40.**I was self-conscious about what others think of me.	1.98	.988	2.12	1.083	2.57	1.424	2.92	1.273	3.52	1.373
41.**I made mistakes that made me feel like less of a person.	2.18	1.134	2.48	1.220	2.82	1.601	3.50	1.447	3.90	1.296
42.**If I made a mistake it ruined my whole day.	2.96	1.313	2.75	1.268	3.04	1.573	3.79	1.417	4.32	1.056

**Reverse-scored items.

An ANOVA was run to determine whether there were any significant between group

differences among the groups. Significant between group differences were found on all five

items. The results of the ANOVA are reported below in Table 27.

Table 27

ANOVA Results for Perfectionism Items

ASC-E Item Number	N	M	SD	Populations*	F	P
38.*I spent a good deal of time worrying about other people's opinions about me.	554	2.90	1.453	All Groups	15.396	<0.001†
39.*I was particularly embarrassed by failure.	554	2.97	1.467	All Groups	15.300	<0.001†
40.*I was self-conscious about what others think of me.	553	2.57	1.350	All Groups	7.656	<0.001†
41.*I made mistakes that made me feel like less of a person.	553	2.92	1.479	All Groups	13.325	<0.001†
42.*If I made a mistake it ruined my whole day.	554	3.24	1.468	All Groups	26.480	<0.001†

* = Reverse scored items
† = Statistically significant differences noted for items 38-42.
Items in *italics* were part of the ASC-34 Items used by Bailey

Post-hoc *t*-tests were done on all perfectionism items to determine where the significant between group differences arose. The results of the post-hoc *t*-tests on all perfectionism items are reported in Table 28 below.

Table 28

Post Hoc t-test Results for Perfectionism Items

Item 38. I spent a good deal of time worrying about other people's opinions about me. (Reverse scored)

		Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.24	.000	.066	.850*	.927*	1.687*
Bailey-NOT	2.31	-.066	.000	.785*	.861*	1.622*
Kimball-Clinical	3.09	-.850*	-.785*	.000	.076	.837*
Kimball-Students	3.17	-.927*	-.861*	-.076	.000	.761*
Kimball-Community	3.93	-1.687*	-1.622*	-.837*	-.761*	.000

Item 39: I was particularly embarrassed by failure. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.29	.000	.208	.610	1.106*	1.813*
Bailey-NOT	2.50	-.208	.000	.401*	.897*	1.605*
Kimball-Clinical	2.90	-.610	-.401*	.000	.496	1.204*
Kimball-Students	3.39	-1.106*	-.897*	-.496	.000	.708*
Kimball-Community	4.10	-1.813*	-1.605*	-1.204*	-.708*	.000

Item 40: I was self-conscious about what others think of me. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	1.98	.000	.145	.595*	.943*	1.545*
Bailey-NOT	2.12	-.145	.000	.450*	.798*	1.400*
Kimball-Clinical	2.57	-.595*	-.450*	.000	.348	.949*
Kimball-Students	2.92	-.943*	-.798*	-.348	.000	.602*

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Community	3.52	-1.545*	-1.400*	-.949*	-.602*	.000

Item 41: I made mistakes that made me feel like less of a person. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.18	.000	.304	.638*	1.322*	1.720*
Bailey-NOT	2.48	-.304	.000	.334	1.019*	1.416*
Kimball-Clinical	2.82	-.638*	-.334	.000	.685*	1.082*
Kimball-Students	3.50	-1.322*	-1.019*	-.685*	.000	.398
Kimball-Community	3.90	-1.720*	-1.416*	-1.082*	-.398	.000

Item 42: If I made a mistake it ruined my whole day. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.96	.000	-.207	.089	.834*	1.363*
Bailey-NOT	2.75	.207	.000	.296	1.041*	1.570*
Kimball-Clinical	3.04	-.089	-.296	.000	.745*	1.274*
Kimball-Students	3.79	-.834*	-1.041*	-.745*	.000	.529
Kimball-Community	4.32	-1.363*	-1.570*	-1.274*	-.529	.000

As can be seen from Table 28 above, although there was a significant difference between the Kimball community group and the clinical populations on items 38, 39, and 40, there was not a significant difference between the Kimball students group and the Kimball clinical group. This may be because the student sample was a highly perfectionistic group. Items 41 and 42 reflected

the expected difference between clinical and non-clinical populations, although the student group

still was somewhat more perfectionistic than the community group.

An inter-item correlation matrix was also produced, the results of which are presented

below in Table 29

Table 29

Perfectionism Inter-item Correlations

Item #	38	39	40	41	42
38	1.000	1.555	1.702	1.491	1.464
39	1.555	1.000	1.580	1.564	1.494
40	1.702	1.580	1.000	1.525	1.476
41	1.491	1.564	1.525	1.000	1.631
42	1.464	1.494	1.476	1.631	1.000

In addition, an item-total statistics analysis was performed to assess the impact of each

item's deletion on the value of Cronbach's alpha. The results of this analysis are presented

below in Table 30.

Table 30

Perfectionism Items-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 38	10.92	20.50	.68	.54	.83
Item 39	10.88	20.50	.67	.46	.83
Item 40	11.24	21.23	.71	.56	.82
Item 41	10.90	20.19	.68	.50	.83
Item 42	10.59	20.71	.63	.44	.84

Finally, frequency tables were created for each of the perfectionism items. These

frequency tables provided the basis for determining the cutoff scores for each of the individual

items ultimately incorporated into the final instrument.

Table 31

Perfectionism Items Response Frequencies

Item Response	Item 38*		Item 39*		Item 40*		Item 41*		Item 42*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	101	24.8	103	25.3	118	29.0	102	25.1	71	17.4
Slightly Agree	124	30.5	109	26.8	148	36.4	123	30.2	119	29.2
Neutral	52	12.8	68	16.7	51	12.5	62	15.2	58	14.3
Slightly Disagree	48	11.8	47	11.5	37	9.1	40	9.8	65	16.0
Strongly Disagree	65	16.0	63	15.5	35	8.6	62	15.2	77	18.9

*Reverse-scored items

After evaluating the above numbers and after many discussions with Lambert's research group, I recommend dropping the perfectionism items. The instrument being developed in this study is one designed to be used in a short-term therapeutic setting. Perfectionism is typically viewed as an entrenched character or personality trait. As a result, it is not as susceptible to change over the course of short-term therapy. Moreover, three of the items (38-40) used did not successfully distinguish between clinical and non-clinical populations. A further problem with perfectionism was the lack of evidence that, once identified, suitable interventions exist. Considerable difficulty was encountered finding intervention suggestions based on empirical evidence. As a result, perfectionism was not included in the final instrument.

Stressful Life Events

Life events data were available from the responses of four different sources: 1) the pilot and NOT studies done by Bailey (2008) which used 6 life events questions, 2) the responses of the mental health clients assessed in this study who answered 9 life events questions (the same 6 from the Bailey study plus an additional 3 questions – the new questions are 44, 45 and 51 and 3) students from a major university. The students and community members answered the expanded 9-item social support questionnaire.   The total maximum score on the life events subscale is 45 (9 items times the maximum score of 5 on each item). The means and standard deviations of each group are presented for each of the items in Table 32 below.

Table 32

Life Events Items Means and Standard Deviations

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		N = 170		N = 187		N = 76		N = 88	
	M	SD	M	SD	M	SD	M	SD	M	SD
43.**I had an interaction with another person that I found upsetting.	2.20	1.036	2.47	1.288	2.70	1.492	3.05	1.404	3.43	1.468
44.**I felt rejected by someone.	--	--	--	--	2.95	1.596	3.55	1.491	3.84	1.405
45.**I recognized several faults in myself that I feel I will not be able to change.	--	--	--	--	3.40	1.412	3.61	1.234	4.13	1.256
46.**I received bad news that was difficult for me.	3.09	1.328	3.25	1.472	3.13	1.609	3.84	1.424	3.97	1.334

ASC-E Item	Bailey-Pilot		Bailey-NOT		Kimball-Clinical		Kimball-Students		Kimball-Comm.	
	N = 45		N = 170		N = 187		N = 76		N = 88	
	M	SD	M	SD	M	SD	M	SD	M	SD
47.**I lost a person I was close to.	4.42	1.138	4.52	1.023	3.46	1.684	4.76	.764	4.63	.926
48.**There was trouble at home, work, or school.	2.62	1.211	2.77	1.198	3.11	1.549	3.39	1.415	3.56	1.492
49.**I had health problems (such as physical pain, flu, cold, etc.).	3.33	1.595	2.90	1.424	2.57	1.599	3.72	1.484	3.83	1.408
50.** I had difficulty adjusting to an occurrence in my life.	2.58	1.234	2.83	1.341	2.91	1.598	3.46	1.390	3.92	1.408
51.**I shrank from facing a crisis or difficulty.	--	--	--	--	3.29	1.528	4.00	1.233	4.19	1.153

Item frequencies for each item are presented below in Table 33.

Table 33

Life Events Items Response Frequencies

Item Response	Item 43*		Item 44*		Item 45*		Item 46*		Item 47*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	106	26.0	40	26	20	13	80	19.7	47	11.5
Slightly Agree	120	29.5	34	22.1	26	16.9	58	14.3	18	4.4
Neutral	61	15.0	19	12.3	29	18.9	76	18.7	43	10.6
Slightly Disagree	50	12.3	16	10.4	31	20	59	14.5	26	6.4
Strongly Disagree	50	12.3	45	29.2	48	31.2	115	28.3	253	62.2

Item Response	Item 43*		Item 44*		Item 45*		Item 46*		Item 47*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%

Item Response	Item 48*		Item 49*		Item 50*		Item 51*	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Strongly Agree	60	14.7	97	23.8	88	21.6	27	10.6
Slightly Agree	122	30.0	111	27.3	97	23.8	28	11.0
Neutral	83	20.4	40	9.8	68	16.7	27	10.6
Slightly Disagree	43	10.6	46	11.3	58	14.3	18	7.1
Strongly Disagree	78	19.2	94	23.1	75	18.4	154	60.6

*Reverse-scored items

An ANOVA was performed on the life events items to determine whether there were any significant differences on the items between groups. The results of the ANOVA are presented below in Table 34.

Table 34

ANOVA Results for Life Events Items

ASC-E Item Number

	N	M	SD	Populations*	F	P
43.**I had an interaction with another person that I found upsetting.	551	2.75	1.421	All Groups	3.618	0.006†
44.**I felt rejected by someone.	317	3.34	1.566	KCl, KS, KCo	17.315	<0.001†
45.**I recognized several faults in myself that I feel I will not be able to change.	317	3.65	1.360	KCl, KS, KCo	45.899	<0.001†
46.**I received bad news that was difficult for me.	552	3.40	1.508	All Groups	16.811	<0.001†
47.**I lost a person I was close to.	551	4.26	1.314	All Groups	121.484	<0.001†
48.**There was trouble at home, work, or school.	550	3.07	1.414	All Groups	6.576	<0.001†
49.**I had health problems (such as physical pain, flu, cold, etc.).	552	3.10	1.567	All Groups	13.610	<0.001†
50.**I had difficulty adjusting to an occurrence in my life.	550	3.09	1.485	All Groups	10.198	<0.001†
51.**I shrank from facing a crisis or difficulty.	318	3.71	1.423	KCl, KS, KCo	57.176	<0.001†

** = Reverse scored items	*Bailey-Pilot = BP
† = Statistically significant differences noted for each item.	Bailey-NOT = BN
Items in *italics* were part of the ASC-34 Items used by Bailey	Kimball-Clinical = KCl
	Kimball-Students = KS
	Kimball-Community = KCo

As can be seen in Table 34 above, significant differences existed between groups on all

life events items. To determine which group/s were significantly different from the others, post-

hoc *t*-tests were done. The results of the post-hoc *t*-tests are presented below in Table 35.

Table 35

Post Hoc t-test Results for Life Events Items

Item 43: I had an interaction with another person that I found upsetting. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.20	.000	.271	.497	.853*	1.232*
Bailey-NOT	2.47	-.271	.000	.226	.582*	.961*
Kimball-Clinical	2.70	-.497	-.226	.000	.356	.735*
Kimball-Students	3.05	-.853*	-.582*	-.356	.000	.379
Kimball-Community	3.43	-1.232*	-.961*	-.735*	-.379	.000

Item 44: I felt rejected by someone. (Reverse scored)

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	2.95	.000	.605*	.891*
Kimball-Students	3.55	-.605*	.000	.286
Kimball-Community	3.84	-.891*	-.286	.000

Item 45: I recognized several faults in myself that I feel I will not be able to change. (Reverse scored)

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	3.40	.000	.209	.730*
Kimball-Students	3.61	-.209	.000	.521*
Kimball-Community	4.13	-.730*	-.521*	.000

Item 46: I received bad news that was difficult for me. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.09	.000	.162	.039	.753	.877*
Bailey-NOT	3.25	-.162	.000	-.123	.591*	.715*
Kimball-Clinical	3.13	-.039	.123	.000	.714*	.838*
Kimball-Students	3.84	-.753	-.591*	-.714*	.000	.124
Kimball-Community	3.97	-.877*	-.715*	-.838*	-.124	.000

Item 47: I lost a person I was close to. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	4.42	.000	.096	-.958*	.341	.203
Bailey-NOT	4.52	-.096	.000	-1.054*	.244	.106
Kimball-Clinical	3.46	.958*	1.054*	.000	1.299*	1.160*
Kimball-Students	4.76	-.341	-.244	-1.299*	.000	-.138
Kimball-Community	4.63	-.203	-.106	-1.160*	.138	.000

Item 48: There was trouble at home, work, or school. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.62	.000	.148	.488	.773*	.935*
Bailey-NOT	2.77	-.148	.000	.340	.625*	.787*
Kimball-Clinical	3.11	-.488	-.340	.000	.284	.446
Kimball-Students	3.39	-.773*	-.625*	-.284	.000	.162
Kimball-Community	3.56	-.935*	-.787*	-.446	-.162	.000

Item 49: I had health problems (such as physical pain, flu, cold, etc.). (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	3.33	.000	-.435	-.763*	.390	.496
Bailey-NOT	2.90	.435	.000	-.328	.825*	.931*
Kimball-Clinical	2.57	.763*	.328	.000	1.153*	1.259*
Kimball-Students	3.72	-.390	-.825*	-1.153*	.000	.106
Kimball-Community	3.83	-.496	-.931*	-1.259*	-.106	.000

Item 50: I had difficulty adjusting to an occurrence in my life. (Reverse scored)

	Group Means	Bailey-Pilot	Bailey-NOT	Kimball-Clinical	Kimball-Students	Kimball-Community
Bailey-Pilot	2.58	.000	.251	.331	.883*	1.343*
Bailey-NOT	2.83	-.251	.000	.080	.632*	1.092*
Kimball-Clinical	2.91	-.331	-.080	.000	.551*	1.011*
Kimball-Students	3.46	-.883*	-.632*	-.551*	.000	.460
Kimball-Community	3.92	-1.343*	-1.092*	-1.011*	-.460	.000

Item 51: I shrank from facing a crisis or difficulty. (Reverse scored)

	Group Means	Kimball-Clinical	Kimball-Students	Kimball-Community
Kimball-Clinical	3.29	.000	.714*	.907*
Kimball-Students	4.00	-.714*	.000	.193
Kimball-Community	4.19	-.907*	-.193	.000

An inter-item correlation matrix was done on the 9 life events items. The results of that matrix are reported below in Table 36.

Table 36

Life Events Inter-item Correlations

Item #	43	44	45	46	47	48	49	50	51
43	1.000	.473	.298	.319	.247	.367	.256	.360	.284
44		1.000	.321	.357	.313	.279	.204	.433	.414
45			1.000	.256	.201	.221	.203	.325	.356
46				1.000	.452	.418	.325	.463	.345
47					1.000	.303	.267	.375	.312
48						1.000	.344	.471	.291
49							1.000	.503	.396
50								1.000	.585
51									1.000

In addition, an item-total statistics analysis was performed to assess the impact of each life events item's deletion on the value of Cronbach's alpha. The results of this analysis are presented below in Table 37.

Table 37

Life Events Items-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 43	26.75	64.853	.496	.308	.810
Item 44	26.41	62.871	.533	.360	.806
Item 45	26.07	67.769	.408	.192	.819
Item 46	26.19	61.895	.569	.358	.802
Item 47	25.63	64.500	.471	.260	.813
Item 48	26.34	64.005	.518	.314	.808
Item 49	26.60	63.524	.475	.296	.814
Item 50	26.44	59.760	.696	.533	.786
Item 51	26.01	63.057	.578	.411	.801

Based on the above tables, it is clear that item 47 does not show a difference between the clinical and non-clinical population. This item also does not seem very important because it likely would be covered by other life events question. For example, if someone lost someone close to them (item 47), they likely would also indicate that they had difficulty adjusting to an occurrence in their life (item 50) or they would endorse item 46 ("I received bad news in my life that I had difficulty adjusting to"). As a result, item 47 was deleted from the final life events subscale. The result was an 8 item subscale with a maximum score of 40. The final life events subscale statistics are produced in Table 41 below and the final life events subscale items

statistics are produced in Table 38. Cronbach's alpha for the final subscale is .836. The mean

score for Life Events (N=8) is 24.12, with a standard deviation of 8.07 and a variance of 65.07.

A subscale cutoff score now must be established that will serve to signal or notify the

clinician if a client's overall life events subscale score falls below a meaningful threshold. The

optimal subscale cutoff score will be one that will signal to the clinician when the client's score

is lower than 80% of the population sampled in this study. In other words, the cutoff score will

be that score that would put the client in the lowest quintile. Using this as a guide, the cutoff

score for the life events subscale will be 18. In other words, any score of 18 or below would be

flagged.

Using Table 33 above it is also possible to establish cutoff scores for each individual item

that will allow a therapist to quickly ascertain whether any given item score falls below an

expected value and thus gives rise to a potential concern. The cutoff scores are established to try

to reflect a response that is lower than approximately 80% of the respondents who answered the

questions in this study. Because whole ordinal numbers are assigned to the various responses,

20% cannot be used as an exact cutoff. It is not possible, for example, for a patient to score an

item at a 3.76. The answer that she or he gives must be scored either a 3 or a 4. As a result,

individual item cutoff scores will be set using the number that comes closest to the score

endorsed by 20% or less of the population answering the question. Using this as a guideline, the

cutoff scores for each of the items is set forth below in Table 38.

Table 38

Life Events Items Cutoff Scores

ASC-E Item Number	Cutoff Score
43.**I had an interaction with another person that I found upsetting.	1
44.**I felt rejected by someone.	1
45.**I recognized several faults in myself that I feel I will not be able to change.	2
46.**I received bad news that was difficult for me.	1
48.**There was trouble at home, work, or school.	1
49.**I had health problems (such as physical pain, flu, cold, etc.).	1

ASC-E Item Number	Cutoff Score
50.**I had difficulty adjusting to an occurrence in my life.	1
51.**I shrank from facing a crisis or difficulty.	2

*Reverse scored items

Final ASC-E Instrument

Based on the above analysis, the resulting ASC-E instrument is a 37-item questionnaire addressing four domains: therapeutic alliance (9 items), social support (10 items), motivation for change (10 items), and life events (8 items). As mentioned above, the perfectionism subscale was dropped from the final instrument. The final instrument is reproduced in Appendix A).

Discussion

Ever since Lambert and his colleagues began their line of outcome research, they have been particularly concerned with the approximately 10% of the clinical population for whom therapy does not appear to be working. Now that outcome measures exist to clearly identify this at-risk population, several important questions emerge. Why is therapy not working? Can anything be done to increase the likelihood for a positive outcome? Is there any particular intervention tool we can offer the "in the trenches" therapist that will increase the likelihood of a positive outcome for the at-risk population? The current study attempts to begin to address these and other related questions.

In many ways, the at-risk mental health client and his therapist are much like a patient seeking conventional medical intervention from his medical doctor. Consider, for example, the patient who has high blood pressure and consults with his family doctor. There are a number of different avenues the practitioner may consider, ranging from changes in nutrition and life-style to pharmacological intervention. If she chooses to recommend medication, there are a number of different medications to choose from. If medicine is prescribed, the doctor continues to monitor the patient through subsequent assessment of his blood pressure. The doctor has learned to do this because there is considerable variability in the way any given patient will respond to any given intervention. The subsequent reassessment of the patient's blood pressure allows the doctor to shape or fine-tune her intervention to match the progress her client is making by making adjustments to dosage or through other supplemental interventions that are directly related to the patient's responses to earlier interventions. Thus, the care provided by the doctor is informed not only by her training and her knowledge of available interventions, but also by the

particular responses of her patient to earlier interventions. In this sense, the patient's responses become a critical part of the on-going and evolving strategic interventions used by the doctor.

One of the main purposes for this particular study was to develop a tool for the mental health clinician that can supplement the OQ-45, which is somewhat akin to the therapeutic blood pressure cuff. Once a patient has been identified to be at risk and that has been communicated to the clinician, the clinician can then begin to tailor therapeutic interventions to address potential problem areas. Once these interventions are attempted, however, the prudent clinician will want to assess whether the interventions have had any impact on the clients symptoms. This would be the therapeutic analogue to taking the patient's blood pressure in subsequent visits. Just as the physician measures the success of her interventions by their resultant impact on the patient's blood pressure, the mental health clinician would want to be able to similarly measure the impact of his interventions through changes not only in the OQ-45 scores but also through changes in the ASC scores.

To provide a brief tool that clinicians could use to help them problem-solve with at-risk clients, this study, like its predecessors, focused on five commonly identified factors contributing to successful therapy: therapeutic alliance, social supports, motivation for change, low perfectionism, and absence of stressful life events. The prior CST studies (Harmon et al., 2007; Slade et al., 2008; Whipple et al., 2003) used existing standardized scales to probe these areas. The instrument used in these studies had more than 100 items and was deemed to be too long for use on a repeated basis. The Bailey CST study (2008) used a 34-item questionnaire (the ASC) to assess each of the above factors. The current study built on the Bailey study. Additional questions were used, after a careful review of the literature and many discussions by a group of graduate students, research professionals and academics who met weekly under the direction of

Dr. Michael Lambert to discuss outcome research ("Lambert research team"). A 51-item

questionnaire was then administered to both a clinical and a non-clinical population (both

students and community members). From the data collected, norms were established or a

clinical population that could be used to identify outliers in each of the four areas identified. (As

stated above, perfectionism was eliminated because it is believed to be far too stable a construct

and, thus, not something that can be dealt with effectively in the type of short-term therapeutic

relationship this instrument is designed to support). Knowing how any given client differs from

a normative sample on one or more of the four areas would, thus, provide a reasoned place to

focus on in therapy.

It is important to remember that this study did not attempt to construct a test in the

traditional or classic approach of coming up with an instrument that yields a single, unified

score. While such instruments are useful, it is not necessary to have a test that sums to a single

total score. Instead, one of the goals of this study was to norm each item and create a cut score

on the item level because it provides the clinician with actionable feedback. A score on any

particular item that deviates significantly from the clinical norms provides the clinician with

information that will allow him to shape his interventions. In this sense, the instrument

recommended in this study (and each of its subscales and individual items) becomes part of the

intervention itself.

By way of example, consider item 21 from the ASC-E: "I felt more connected to a

higher power." Because this item, like all others, was normed against a sample from clinical

populations, if a client's response deviated significantly from the expected response, the therapist

could readily identify this as an area that might be worth exploring as a possible reason for the

client's risk for a negative outcome. The therapist could then proceed to unpack the potential

issues surrounding this topic for the client. The therapist might seek to learn what a score significantly lower than the average score on this item means for the client. He might explore, for example, whether the low score is the result of a lack of interest in or belief in a higher power or whether it reflects a longing for a reconnection that was once enjoyed by the client. In this sense, this one item has provided specific, principled guidance to the therapist in shaping his interventions. This type of real-time guidance would be much better than asking the therapist merely to rely on his own clinical judgment as to which items to explore with the client. In essence, this approach may help maximize clinical decision-making.

It is in this sense—the clinical decision-making piece—that the current study differs from its predecessors. Earlier studies have focused on various types of formats for providing feedback. The current study recommends an instrument that, it is hoped, can more clearly define on a session by session basis HOW and WHERE a therapist might intervene for an at-risk client. The goal is to begin to approximate the medical decision-making process in a mental health context. While it may be difficult in any one particular case to determine whether a "better" outcome has been achieved through use of the instrument recommended in this study, the author of the current study believes that in the aggregate clients will benefit as clinicians reflect on deviant scores on individual items and redirect their interventions to address (or "unpack") the issues related to such items.

Development of the Instrument

With the above principles in mind, attention was turned to the instrument itself. As mentioned in the literature review, five key areas relating to success in therapeutic outcomes were identified (therapeutic alliance, social support, motivation for therapy, perfectionism and life events). A review of the literature was done to identify items in each of these domains (or

subscales) that were deemed to be related to outcome. Although by no means exhaustive, these domains are well-represented in the outcome literature. The items were then extensively discussed by Lambert's research team. Each of the five subscales was then incorporated into a decision tree (Appendix B). A subscale cut score and individual item cut score were derived. Each of the domains is discussed below.

Therapeutic alliance. No factor is more widely supported in outcome research literature than the therapeutic alliance. Alliance is widely discussed as a critical factor in positive outcomes and breakdowns in alliance are often thought to be a primary reason for treatment failures (Safran & Muran, 1996). Because of its clear, well-supported connection to outcome, it is the first domain considered in the decision tree (Appendix B) for at risk clients.

As discussed above, alliance can be subdivided into three main subgroups: agreement on goals, collaboration in therapeutic tasks, and the strength or warmth attributed to the human relationship between the therapist and the client. Bailey's ASC instrument had an alliance subscale that consisted of eight alliance items. The current study added an additional three items to the Bailey original 8 items for a total of 11. After carefully evaluating the data, two of the 11 items were discarded leaving 9 alliance items in the final instrument (seven of the eight original Bailey items plus two new items). Of these final items, four were therapeutic bond questions, two were therapeutic task questions and one was a therapeutic goal question. In retrospect, it might have been better to have included more balance in the number of questions relating to each of the three subsets of therapeutic alliance. If there are further iterations of the ASC questionnaire, the issue of greater balance should be considered. In addition to the above, the final instrument also contained two rupture items. Rupture items were included because of their potential to deepen the therapeutic relationship by identifying and overcoming rupture issues

when they arise. They were also considered because they may be much more important in preventing deterioration since a rupture may be at the heart of the failure. It was somewhat surprising to discover that rupture items did not correlate with the therapeutic alliance subscale score as highly as other items. Based on the data collected, a subscale score was recommended for the nine-item alliance scale. In addition, individual cut scores were recommended for each of the 9 items. As a general rule, the cut scores for both the subscale and the individual items was set to trigger if scores would fall in the bottom quintile of scores.

Social support. The next decision tree factor is the social support subscale. As discussed above, extra-therapeutic factors (that is, factors occurring outside of therapy) are responsible for approximately 40% of the change occurring during therapy. This stands to reason when one considers the relatively little time spent in therapy when compared to other activities in life. In addition, studies have shown that lack of social support is directly related to a patient's reported level of distress and can lead to psychological problems. As a result, lack of social support is often considered to be a possible significant factor in clients who are at risk for a negative outcome.

The ASC used by Bailey consisted of 8 items. The ASC-E given to community health clients and a sample of university students and community normals consisted of the same 8 items in the Bailey ASC plus an additional 5 items agreed to based on a review of the social support literature and discussions by the Lambert research team. The final ASC social support that emerged after evaluating the data (Appendix A) included 10 items. As discussed above, the three discarded items had the lowest correlation with the subscale cut score. In addition, two of the discarded items failed to distinguish between the clinical and non-clinical populations. The final subscale cut score was set at 30 and individual item cut scores were also established.

The expectation that there would be a significant difference between the clinical and non-clinical populations was (with the exception of the two items mentioned immediately above) largely supported. There were, however, some unanticipated surprises. For example, there were a number of social support items where the non-clinical community group endorsed significantly higher levels of support than the non-clinical student group. It seems likely that this may have been the result of the majority of students being far from home, which is where much of their primary support group might be. The finding of lower support for the student group was unanticipated however because the vast majority belonged to the same religion and were attending a religiously funded university with many student services and organized social groups.

Another surprise with the social support data was that the Bailey NOT group did not show a significantly lower level of social support than the other clinical groups on a majority of the items. Since the Bailey NOT group was comprised exclusively of NOT clients, one would expect that their level of social support would be even less than the general clinical population. This did not prove to be the case. It is possible that the Bailey NOT group did not represent a typical sample of NOT clients. On three items there was a difference between the Bailey NOT group and the Kimball Clinical group. On these items, however, there was no difference between the Bailey NOT group and the Bailey pilot groups. Future tests might be able to determine whether there is a correlation between NOT clients and lower social support scores. Regardless of the failure to find expected differences the cut-off score recommended in this study helps to identify social support difficulties and could lead to effective therapeutic actions.

Motivation for therapy. The third factor included in the CST decision tree (Appendix B) is motivation for therapy. As discussed above, the literature clearly supports the notion that

when clients are motivated to change in therapy and expect therapy to benefit them are more

self-determined, they are more likely to experience less tension, less distraction, and more

positive moods during therapy (Pelletier, Tuson, and Haddad, 1997). In addition, they consider

therapy to be more important, report higher levels of satisfaction with therapy, and have stronger

intentions of continuing in therapy. Conversely, Pelletier and colleagues also found (1997) that

when clients report being less motivated they show the opposite pattern of associations.

Although these propositions were not directly explored or verified in the current study, the body

of literature on this topic more than established the importance of motivation for therapy as one

of the important factors underlying successful therapeutic outcome.

The literature also supports the notion that final outcome can be predicted and enhanced

by assessing a patient's readiness to change and matching it with appropriate therapeutic

interventions (Prochaska & DiClemente, 1992). Thus, the current study identified items

designed to elicit information about a client's readiness to change. The original ASC used by

Bailey had 7 motivation for therapy items that had been drawn from the literature relating to

motivation for change. This study used those same 7 items plus an additional 6 that were

selected after a further review of the motivation for change literature and discussions by the

Lambert research group. After analyzing the data, three items with the lowest overall correlation

to the subscale score were discarded, resulting in a 10-item motivation for therapy subscale. The

subscale cut score was established, as were individual cut scores.

Interestingly, on one item (#27—"I am in therapy because I want to make changes to my

current situation.), the Bailey NOT and pilot groups both endorsed higher levels of motivation to

change than the Kimball Clinical group. It was somewhat surprising to see the Bailey NOT

group (a group composed exclusively of NOT clients) endorse a higher level of motivation than

the general clinical sample drawn from a rural mental health center. This may be the result of a relatively highly motivated student group in the Bailey sample and an unanticipated anomaly in the rural mental health center population. Future studies with additional sample may see no difference between clinical samples on this item.

Perfectionism. Prior CST studies developed a perfectionism subscale. According to the literature, over 26% of the women and 21% of the men in a large sample of college students in counseling indicated that perfectionism was "quite distressing" to them (Research Consortium of Counseling and Psychological Services in Higher Education, 1993). Other studies support the notion that perfectionism is related to psychopathology and presenting concerns as well as therapeutic outcome. Moreover, the literature suggests that pretreatment level of perfectionism affects therapeutic outcome by "disrupting the patient's quality of interpersonal relations both in the treatment process and in social relationships outside of treatment" (Hartley & Strupp, 1983, p.322). As a result, Slade (2008) incorporated a perfectionism measure into her CST study. Moreover, the ASC used by Bailey contained five perfectionism questions.

The present study used the same five perfectionism questions. After carefully evaluating the data and multiple, extensive discussions by the Lambert research team, no perfectionism items were included in the final ASC recommended by this study. This decision was not the result of any inherent weakness in the perfectionism data generated and analyzed in this study. Rather, the decision to exclude perfectionism items was based on the belief that perfectionism is more a character trait than a symptom of distress. As a result, perfectionism was deemed to be far too stable a construct to address in the type of short-term therapy that is typically practiced in the United States where median sessions is around five. The unfortunate fact is that even when we know a client is excessively perfectionistic we are not sure what to do about it. Analysis of

the data generated, revealed that on three of the five perfectionism items, there was no difference

in the level of perfectionism between the Kimball Clinical group and the Kimball students. In

other words, these items did not distinguish between one of the non-clinical groups (the students)

and one of the clinical groups (Kimball Clinical). This may be the result of a highly

perfectionistic group of students drawn from a sample at a religiously conservative university

counseling center. Future studies may find that perfectionism does distinguish well between

clinical and non-clinical populations and may wish to further evaluate the merits of including

perfectionism as a CST intervention.

Life Events. Life events was the final subscale included in the current study. It seemed

obvious that significant negative life events could contribute to a negative therapeutic outcome.

In one study, Wise (2003) found that extra-therapeutic stressors were present in 23 of 25 (92%)

negative responders in therapy. As a result, assessing life events at the time a person's

symptoms have worsened was thought to be a helpful aspect to add to the CST problem-solving

strategy for therapist feedback. The ASC used in Bailey's study had six life-events questions

that were derived after a review of the literature and discussions by the Lambert research team.

The current study used the same six questions from the Bailey study plus an additional three

items. After evaluating the data, only one of the nine items ("I lost a person I was close to") was

discarded, resulting in an 8-item final life events scale. Cut scores for the subscale and for each

individual item were established, attempting to capture approximately the bottom quintile of

scores. The basis for excluding the one item was that it did not distinguish between clinical and

non-clinical populations.

The Final Instrument

The result of the extensive analysis was an instrument with a total of 37 items, divided into four subscales: alliance (9 items), social support (10 items), motivation for change (10 items), and life events (8 items). The resultant 37-item instrument (Appendix A) is an internally reliable instrument. It can be administered in approximately one-third to one-fourth of the time required to complete earlier versions of the CST instruments. This will allow clinicians to use the instrument on a one time basis or even on a weekly basis to track progress in important domains for clients who are not on track for a favorable therapeutic outcome. As such, it can serve as part of the intervention cycle itself and provide real-time feedback to therapists that will allow them to tailor interventions to the clients' needs.

While the final instrument meets the objective it is designed to meet, there are some important things to remember about the limitations of the instrument. The decisions made about which of the 51 items to include in the final instrument and which items to exclude was at times, somewhat arbitrary. While attention was paid to feasibility (patient time, real-time feedback), internal reliability, distribution of responses, and item intercorrelations, at times there was no principled basis for including one item over another. Such was the case, for example, in the exclusion of one of the three rupture items (item 11) in the alliance scale. While omitting the item made the questionnaire more economical and more internally consistent, the same would have been true if either or both of the rupture items included had been omitted.

Suffice it to say that the instrument is undoubtedly over- and under-inclusive. There are probably still a few items that could be eliminated without changing the utility of the instrument. Conversely, there are undoubtedly other questions not yet identified or included in any of the various CST instruments that would be better able to assist clinicians in treating clients who are

at risk for a negative outcome. It should be emphasized, however, that the current instrument is much better than not having any instrument to help shape interventions. Thus, one should take care to neither overstate nor understate the importance of the final instrument recommended by this study.

The general problem of not knowing beforehand what the exact criteria for inclusion of items was the greatest problem encountered in developing the scale. Even after completing this study, such criteria have not emerged in a form that is feasible to apply. Consider the general goal and use of the measure. A subset of patients has been identified as being at risk for leaving treatment in a deteriorated state. The reasons for their unlikely success are many and undoubtedly not the same. Examination of group means and standard deviations between criterion groups may provide a clue, but cannot be trusted as sole criterion. We can say an item is more suitable if it correlates with other items within a scale, and with the total score of a subscale, if patients are from a more disturbed population and have a more disturbed score, etc. But absolute criteria are missing. More will be said on this under the topic of future research.

Another potential problem was the decision to drop the perfectionism scale after vigorous debate. Unfortunately the power of the CST intervention (Harmon, et al., 2007; Slade, et al., 2008; Whipple, et al., 2003) has never been dismantled to test each of its specific components in order to evaluate specific aspects of the full intervention that is enhancing outcomes. Future studies may want to incorporate perfectionism and test its effectiveness as an intervention predicting the potential for negative therapeutic outcome.

Recommendations for Future Studies

Outcome research involving feedback to clients and therapists is ongoing. Some of the shortcomings in this study can be useful to future researchers as they address similar issues in future studies. Some of the key recommendations for future studies are enumerated below.

1. The population samples used in this study were extremely homogenous. As a result, the findings may not be typical of a more heterogeneous population. This could be remedied by using a more diverse population for future studies.

2. One purpose of this study was to establish norms for a questionnaire. The psychometric properties of the resultant items have yet to be established. Future studies can seek to establish the validity of the items selected and to see, through a factor analysis, how many factors there are that account for the difference in therapeutic experience between on-track and not-on-track client populations.

3. As mentioned above, a broad-based study with a large clinical population is necessary to establish which of the proposed items are, in fact, best at identifying differences between on-track and not-on-track clients. The instrument in this study is internally consistent and, based on a review of outcome literature, represents some constructs and items important to therapeutic outcome. Future studies will have to be done to determine how well these items actually do in identifying problem areas for not-on-track clients. It is quite likely that the recommended instrument is both over and under inclusive. In other words, some of the included items may be shown to offer little value in directing clinicians in helping off-track; at the same time, other items not included in the questionnaire may be more helpful for this purpose.

With the above comments in mind, a study could be done with a large sample of NOT clients from several different locations (universities, community health centers, HMO counseling

data). The control group could be a treatment as usual group whose therapists are given

feedback concerning their clients' risk for a negative treatment outcome. The experimental

group could be clients who are NOT but who are given the final 37-item ASC on a weekly basis.

The outcomes of the two groups could then be compared to see if there is a significant difference

between the outcomes of the two groups. This would largely be a replication study of some of

the earlier CST studies. Some significant additional steps, however, should also be taken with

this future study. For example, an analysis could be done to determine which of the 37 items

were "best" at identifying NOT clients. More importantly, these NOT clients could be tracked

through the course of their therapy. Those that made improvement or "got back on track" could

be compared with those that remained NOT to see whether theories could be better articulated as

to what causes a NOT client to be able to make progress. A qualitative study of those who had

positive outcomes despite an earlier characterization of NOT could be enormously useful in

learning about what types of interventions were considered to be pivotal or most fruitful for

them.

In addition to the above, such a study would allow researchers to track which items of the

37-item ASC change most significantly over the course of treatment for NOT clients. This

would allow therapists of future NOT clients to track change with respect to these particular

items.

Based on the information gained by these future studies, it might be possible to move

toward more prescriptive recommendations when dealing with at-risk clients. Such prescriptive

approaches could prove to be extra-ordinarily important to struggling clients who otherwise

might never have had a positive outcome.

In conclusion, much has been done to address the plight of the at-risk client. It is safe to say, however, that much, much more needs to be done. While providing feedback and intervention tools will NOT end all therapeutic failures, it will end some. As broader, rigorous studies are done, we will improve on our ability to identify and intervene on behalf of the at-risk client.

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APPENDIX A—Final ASC-E Questionnaire

INSTRUCTIONS: (#1-9): The following statements describe attitudes people might have about their therapist. Thinking about the *last session you completed* with your therapist:

1. My therapist and I seemed to work well together to accomplish what I want.
2. At times, the tone of my therapist's voice seemed critical or impatient.
3. I felt my therapist understood me.
4. I felt there was a breakdown in the relationship with my therapist.
5. I felt cared for and respected as a person.
6. I thought the suggestions my therapist made were useful.
7. My therapist and I had a similar understanding of my problems.
8. I felt like I could trust my therapist completely.
9. I was willing to share my innermost thoughts with my therapist.

INSTRUCTIONS (#10-19): The following statements describe the *support you felt outside of therapy* during this last week.

10. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)
11. I had support from social groups (like: church, school, AA, clubs, etc.)
12. There was a special person who was around when I was in need.
13. There was a special person with whom I could share my joys and sorrows.
14. I got the emotional help and support I needed from someone in my family.
15. I could count on my friendships when things went wrong.
16. I could talk about problems with someone in my family.
17. I could talk about problems with my friends.
18. I felt accepted by someone other than my therapist.
19. I felt more connected to a higher power.

INSTRUCTIONS (#20-29): The following statements describe some *current feelings about being in treatment*. Looking back over the past week:
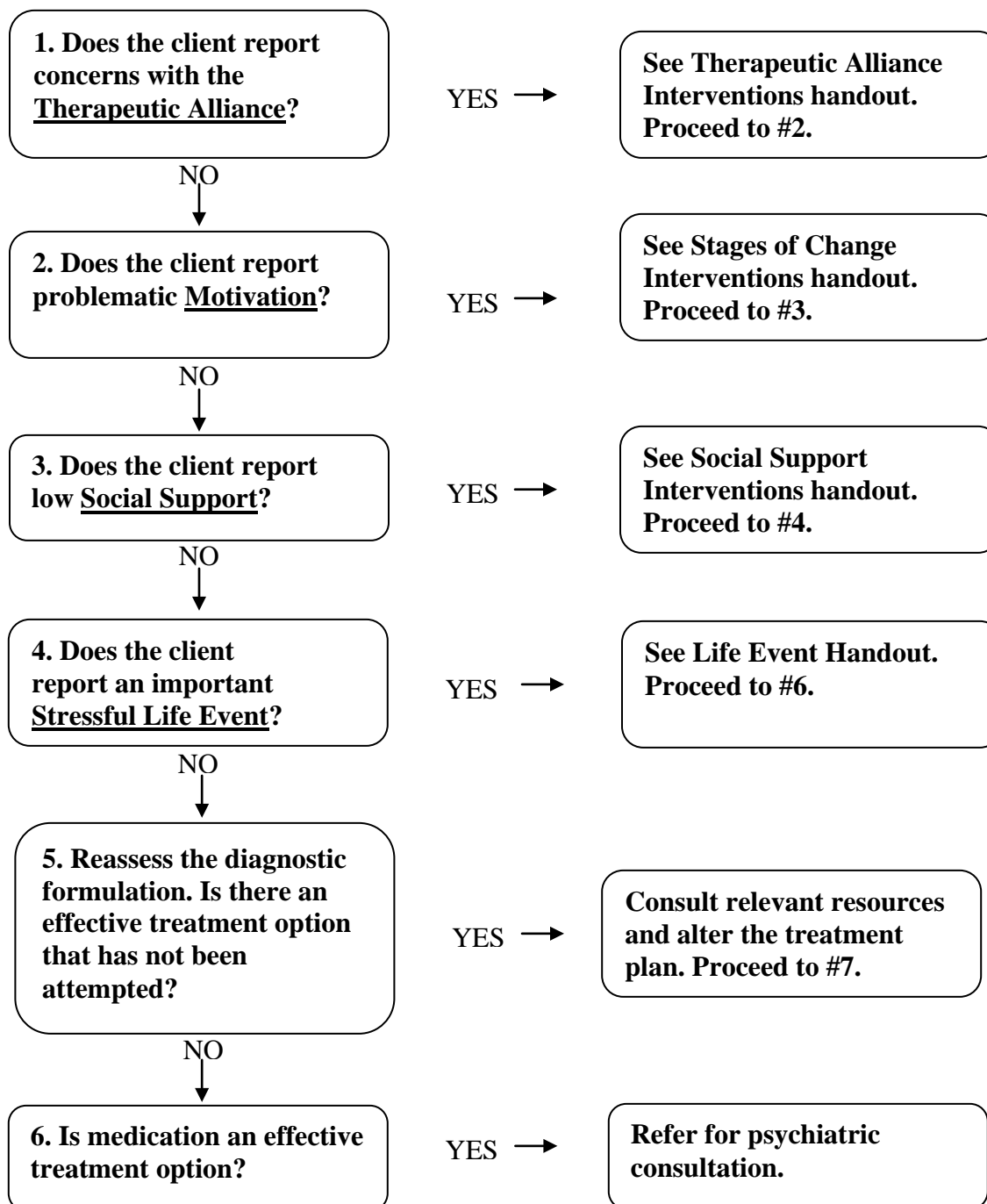
20. I wonder what I am doing in therapy; actually I find it boring.
21. Honestly, I don't really understand what I can get from therapy.
22. I am in therapy because I want to make changes to my current situation.
23. I am not really sure what to work on in therapy.
24. I had thoughts about quitting therapy; it's just not for me.
25. I don't think therapy will help me get feel any better.
26. I have no desire to work out my problems.
27. Although I am currently unhappy with my life, there is nothing I can do about it now.
28. I don't seem to care what happens to me.
29. I am in therapy because someone is requiring it of me.

INSTRUCTIONS (#30-37): During this past week:

30. I had an interaction with another person that I found upsetting.
31. I felt rejected by someone.
32. I recognized several faults in myself that I feel I will not be able to change.
33. I received bad news that was difficult for me.
34. There was trouble at home, work, or school.
35. I had health problems (such as physical pain, flu, cold, etc.).
36. I had difficulty adjusting to an occurrence in my life.
37. I shrank from facing a crisis or difficulty.

APPENDIX B: Decision tree from CST Manual
Clinical Support Tools Decision Tree

Red or Yellow Feedback Cases

1. Does the client report concerns with the <u>Therapeutic Alliance</u>?	YES →	**See Therapeutic Alliance Interventions handout. Proceed to #2.**

NO ↓

2. Does the client report problematic <u>Motivation</u>?	YES →	**See Stages of Change Interventions handout. Proceed to #3.**

NO ↓

3. Does the client report low <u>Social Support</u>?	YES →	**See Social Support Interventions handout. Proceed to #4.**

NO ↓

4. Does the client report an important <u>Stressful Life Event</u>?	YES →	**See Life Event Handout. Proceed to #6.**

NO ↓

5. Reassess the diagnostic formulation. Is there an effective treatment option that has not been attempted?	YES →	**Consult relevant resources and alter the treatment plan. Proceed to #7.**

NO ↓

6. Is medication an effective treatment option?	YES →	**Refer for psychiatric consultation.**

APPENDIX C—ASSESSMENT FOR SIGNAL CLIENTS (ASC)

INSTRUCTIONS: (#1-8): The following statements describe attitudes people might have about their therapist. Thinking about the *last session you completed* with your therapist:
1. My therapist and I seemed to work well together to accomplish what I want.
2. At times, the tone of my therapist's voice seemed critical or impatient.
3. I felt my therapist understood me.
4. I felt optimistic about the work my therapist and I were doing together.
5. I felt there was a breakdown in the relationship with my therapist.
6. During the session, I felt cared for and respected as a person.
7. I found the suggestions my therapist made were useful.
8. My therapist and I had a similar understanding of my problems.

INSTRUCTIONS (#9-16): The following statements describe the *support you felt outside of therapy* during this last week.
9. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, etc.)
10. I had support from social groups (like: church, school, AA, clubs, etc.)
11. There was a special person who was around when I was in need.
12. There was a special person with whom I could share my joys and sorrows.
13. I got the emotional help and support I needed from my family.
14. I could count on my friendships when things went wrong.
15. I could talk about problems with my family.
16. I could talk about problems with my friends.

INSTRUCTIONS (#17-23): The following statements describe some *current feelings about being in treatment*. Looking back over the past week:
17. I wonder what I am doing in therapy; actually I find it boring.
18. Honestly, I really don't understand what I can get from therapy.
19. I am in therapy because I want to make changes to my current situation.
20. I am in therapy because other people think it is a good idea.
21. I am not really sure what to work on in therapy.
22. Through therapy I am taking more responsibility for changing my life.
23. I had thoughts about quitting therapy; it's just not for me.

INSTRUCTIONS (#24-34): During this past week:
24. I spent a good deal of time worrying about other people's opinions about me.
25. I was particularly embarrassed by failure.
26. I was self-conscious about what others think of me.
27. I made mistakes that made me feel like less of a person.
28. If I made a mistake it ruined my whole day.
29. I had an interaction with another person that I found upsetting.
30. I received bad news that was difficult for me.
31. I lost a person I was close to.
32. There was trouble at home, work, or school.
33. I had health problems (such as physical pain).
34. I had difficulty adjusting to an occurrence in my life.

APPENDIX D—ASC-E

ASC-E (ASSESSMENT FOR SIGNAL CLIENTS-EXPANDED)

INSTRUCTIONS: (#1-11): The following statements describe attitudes people might have about their therapist. Thinking about the *last session you completed* with your therapist:
1. My therapist and I seemed to work well together to accomplish what I want.
2. At times, the tone of my therapist's voice seemed critical or impatient.
3. I felt my therapist understood me.
4. I felt optimistic about the work my therapist and I were doing together.
5. I felt there was a breakdown in the relationship with my therapist.
6. I felt cared for and respected as a person.
7. I thought the suggestions my therapist made were useful.
8. My therapist and I had a similar understanding of my problems.
9. I felt like I could trust my therapist completely.
10. I was willing to share my innermost thoughts with my therapist.
11. I felt like my therapist disapproved of me.

INSTRUCTIONS (#12-24): The following statements describe the *support you felt outside of therapy* during this last week.
12. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)
13. I had support from social groups (like: church, school, AA, clubs, etc.)
14. There was a special person who was around when I was in need.
15. There was a special person with whom I could share my joys and sorrows.
16. I got the emotional help and support I needed from someone in my family.
17. I could count on my friendships when things went wrong.
18. I could talk about problems with someone in my family.
19. I could talk about problems with my friends.
20. I felt accepted by someone other than my therapist.
21. I felt more connected to a higher power.
22. Some subjects were so sensitive I couldn't talk with anyone about them.
23. I kept personal problems to myself.
24. I felt betrayed by someone important to me.

INSTRUCTIONS (#25-37): The following statements describe some *current feelings about being in treatment*. Looking back over the past week:
25. I wonder what I am doing in therapy; actually I find it boring.
26. Honestly, I don't really understand what I can get from therapy.
27. I am in therapy because I want to make changes to my current situation.
28. I am in therapy because other people think it is a good idea.
29. I am not really sure what to work on in therapy.
30. Through therapy I am taking more responsibility for changing my life.
31. I had thoughts about quitting therapy; it's just not for me.
32. I don't think therapy will help me get feel any better.

33. I have no desire to work out my problems.
34. I had some insights that I believe will help me make progress.
35. Although I am currently unhappy with my life, there is nothing I can do about it now.
36. I don't seem to care what happens to me.
37. I am in therapy because other people (such as family members or friends) encouraged me to do so.

INSTRUCTIONS (#38-51): During this past week:
38. I spent a good deal of time worrying about other people's opinions about me.
39. I was particularly embarrassed by failure.
40. I was self-conscious about what others think of me.
41. I made mistakes that made me feel like less of a person.
42. If I made a mistake it ruined my whole day.
43. I had an interaction with another person that I found upsetting.
44. I felt rejected by someone.
45. I recognized several faults in myself that I feel I will not be able to change.
46. I received bad news that was difficult for me.
47. I lost a person I was close to.
48. There was trouble at home, work, or school.
49. I had health problems (such as physical pain, flu, cold, etc.).
50. I had difficulty adjusting to an occurrence in my life.
51. I shrank from facing a crisis or difficulty.

APPENDIX E—ASC-R

ASC-E (ASSESSMENT FOR SIGNAL CLIENTS-EXPANDED)

INSTRUCTIONS (#1-13): The following statements describe the *support you felt outside of therapy* during this last week.

1. I could get material support if needed (like: money, food, transportation, child care, tools, repairs, health care, legal advice, etc.)
2. I had support from social groups (like: church, school, AA, clubs, etc.)
3. There was a special person who was around when I was in need.
4. There was a special person with whom I could share my joys and sorrows.
5. I got the emotional help and support I needed from someone in my family.
6. I could count on my friendships when things went wrong.
7. I could talk about problems with someone in my family.
8. I could talk about problems with my friends.
9. I felt accepted by someone other than my therapist.
10. I felt more connected to a higher power.
11. Some subjects were so sensitive I couldn't talk with anyone about them.
12. I kept personal problems to myself.
13. I felt betrayed by someone important to me.

INSTRUCTIONS (#14-27): During this past week:

14. I spent a good deal of time worrying about other people's opinions about me.
15. I was particularly embarrassed by failure.
16. I was self-conscious about what others think of me.
17. I made mistakes that made me feel like less of a person.
18. If I made a mistake it ruined my whole day.
19. I had an interaction with another person that I found upsetting.
20. I felt rejected by someone.
21. I recognized several faults in myself that I feel I will not be able to change.
22. I received bad news that was difficult for me.
23. I lost a person I was close to.
24. There was trouble at home, work, or school.
25. I had health problems (such as physical pain, flu, cold, etc.).
26. I had difficulty adjusting to an occurrence in my life.
27. I shrank from facing a crisis or difficulty.