RELATIONSHIP BETWEEN CLIENT FACTORS AND SYMPTOM LEVELS FOR CLIENTS IN ONGOING MENTAL HEALTH TREATMENT

By

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The common factors model of mental health counseling posits that as much as 55% of the variance in outcome results from client factors apart from the counseling itself. The primary purpose of this study was to evaluate the relationship of common factors on client symptom levels during an ongoing treatment attempt. The secondary purpose of the study was to assess which client factors were associated with positive mental health symptom levels. Based on counseling literature, 13 client factors were selected on the basis of their prognostic potential. The dependent variable was the Outcome Questionnaire-45 which provided a global measure of mental health comprised of the three subscales symptom distress, quality of interpersonal relations, and social role at home, work, or school.

Clients undergoing mental health counseling were solicited through Internet self-help mental health message/bulletin boards that primarily targeted depression and anxiety related concerns. Recruitment of participants began by first achieving access to Internet
self-help message/bulletin boards and then posting an advertisement directed towards members also involved in face-to-face professional mental health counseling. Seventy-four mental health message/bulletin board forums were solicited for participation over a period of 13 weeks. In total, 195 self-selected volunteer responses to the survey were analyzed using correlation and multiple regression analyses.

Respondents were mainly adult, white, well-educated females, with a history of chronic and severe mental health concerns. The results revealed that the 13 client factors measured significantly related to client symptom level and collectively explained over half (i.e., 58%) of the variance in client symptom level, thus supporting the influence of the common factors model for clients undergoing mental health treatment. Satisfaction with social supports and primary life role (e.g., student, retired volunteer) were the two most influential factors relating to less reported symptom levels. Fewer prior attempts at coping with the respondent’s presenting problem, higher education level, satisfaction with physical health, older age, and to a lesser extent, financial security, no incidence of emotional or sexual abuse, and hope/expectancy for improvement, also related to reports of fewer mental health symptoms. Clinical implications and future research are elucidated.
CHAPTER 1
INTRODUCTION

Mental health therapists face increasing pressures to demonstrate effective practice by third-party payers, health managed organizations (HMOs), and administrators (Addis, Wade, & Hatgis, 1999; Plante, Couchman, & Hoffman, 1998; Rainer, 1996). The now infamous Hans Eysenck (1952) study purporting that people undergoing psychotherapy were no better off than those going without psychotherapy galvanized researchers to focus on the task of outcome studies (Clarkin & Levy, 2004). In the late 1970’s and early 1980’s, psychotherapy researchers subsequently turned in an impressive mass of empirical evidence demonstrating the general benefit of counseling (Shapiro & Shapiro, 1982; Smith & Glass, 1977; Smith, Glass, & Miller, 1980), and were able to conclude that clients who received counseling were better off than 80% of those who had not received counseling (Lambert & Ogles, 2004).

With the general effectiveness of counseling demonstrated, attempts were then undertaken to discover specifically what treatments, or schools of therapy, worked for which clients (Chambless & Ollendick, 2001), and to identify what the curative factors (e.g., advanced empathy, disputing irrational beliefs) of therapy were (Lambert & Ogles, 2004). To accurately evaluate which schools of psychotherapy (e.g., cognitive-behavioral therapy vs. person centered therapy) were most effective, treatment manuals were developed that specified procedures for applying the interventions (Beck, Rush, Shaw, & Emery, 1979). The advent of treatment manuals-psychotherapy researchers constituted a “small revolution” (Luborsky & DuRubeis, 1984) in counseling methodology. Manuals
also allowed researchers within a school to remove one intervention to an approach (i.e., dismantling study), or add one intervention (i.e., component study) to that approach, to study which interventions were the crucial elements of the particular school of psychotherapy (Wampold, 2001). Paul’s overarching question (1969) “What treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances, and how does it come about?” was ready to be investigated.

The advent of treatment manuals and, later, better measurement tools and statistical methods (Howard, Moras, Brill, Martinovich, Lutz, 1996; Nathan, 1998), have indeed helped identify when specific treatments for diagnoses should be considered. Client ailments such as panic disorder, phobias, and compulsions have especially emerged as treatable interventions delineated in manuals (Lambert & Ogles, 2004). Some findings even show that interventions from manuals improve therapy relationships (Brown, Dreis, & Nace, 1999). Other reports indicate that manuals not only help clients with their primary problem (e.g., agoraphobia) but also with coexisting mental health complaints (Addis et al., 1999). Even though the rigor of comparative outcome studies in counseling research is in its infancy, in general, modest advantages have accrued to behavioral, cognitive, or cognitive-behavioral approaches over humanistic approaches (Lambert & Ogles, 2004).

These advances in the field are important as the healthcare cost-cutting policies of the 90s intensify demands on mental health professionals to demonstrate success (Barlow, 1994; Hubble, Duncan, & Miller, 1999a; Nathan, 1998). Mental health professionals responded to the demands by developing practice guidelines for the field (Nathan, 1998) and reporting 22 treatments considered “empirically validated” by
Division 12 of Clinical Psychology of the American Psychology Association (Division 12 Task Force, 1995). Although the Division 12 psychotherapy researchers were attempting to build stability to the field, their publication was met with considerable resistance and controversy (Garfield, 1996; Silverman, 1996). Some researchers have provided evidence that a researcher’s treatment allegiance, acting as a self-fulfilling prophecy, explained advantages accruing to empirically validated treatments over other treatments (Robinson, Berman, & Neimeyer, 1990; Wampold, 2001).

Meta-analyses (Wampold, Mondin, Moody, Stich, Benson, & Ahn, 1997) and null findings from studies comparing Empirically Supported Treatments against one another (ESTs; Elkin, Shea, Watkins, Imber, Sotsky, Collins, Glass et al., 1989; Project Match Research Group, 1997) have led some researchers to invoke Rosenzweig’s (1936) classic analogy to Alice in Wonderland’s “dodo bird” verdict, where everyone wins and everyone gets prizes. In other words, all treatments work, and do so about equally well (Luborsky, Singer, & Luborsky, 1975; Stiles, Shapiro, & Elliott, 1986; Wampold et al., 1997). Although the dodo bird verdict has been disputed (Beutler, 2002; Chambless, 2002), others continue to espouse that non-specific “ingredients” common to most psychotherapy approaches better explain the data (Frank & Frank, 1991; Wampold, 2001). One model that has received much attention in the field is outcome researcher Michael Lambert’s (1992) common factor model of therapy outcome. Based on his reviews of three decades of outcome research, and especially studies about spontaneous remission of mental health symptoms (Lambert, 1976), he estimated that the largest portion of outcome resulted from client variables. He theorized that 40% of outcome variance arose from “extratherapeutic” factors (i.e., factors outside the therapy room) and
another 15% proceeded from client expectancy for success in treatment. Thus, according to the theory, over half (55%) of what drives psychotherapy change has little to do with what happens inside the therapy room. The other 45% of client change was speculated to result from the relationship between therapist and client (accounting for 30% of change) and 15% depended on counseling school or approach.

Although Lambert’s common factor model of outcome retains its adherents (Hubble et al., 1999a), the model has not been examined directly. Nor does the common factors model influence manage care policy. As outcome researcher Gene Glass (2001) colorfully expressed it: “any therapy that uses non-specific diagnoses and non-specific treatments is somehow bogus witchcraft lacking indications of when to begin and when to end, and its application should be excluded from third-party coverage” (p. x). Miller, Duncan, and Johnson (1999) contended that the inability of practitioners to show objective measures of their effectiveness will result in increasing forfeiture of control over their clinical work to “accountants and actuaries” (p.55). In actuality, third-party payers have assumed a larger role in determining the type, frequency, and duration of treatment (Addis et al., 1999; Miller et al., 1999). The common factor model, in and of itself, has not helped reverse this trend.

For researchers and practitioners wanting to demonstrate the efficacy of their approach without using manuals, Howard et al.(1996) developed an alternative research method to accommodate HMOs in what is now called “Client-focused Research” (Whipple, Lambert, Vermeersch, Smart, Nielsen, & Hawkins, 2003). Client-focused research is a system for tracking and evaluating client progress during the treatment course for the purpose of improving services to the individual client (Lambert, 2001).
The focus is on the individual client while in treatment rather than groups of clients after treatment has been completed (Howard et al., 1996). The tracking system of Howard et al. was derived from research about the dose-effect of psychotherapy based on multiple research efforts collected over 30 years and including 2,400 clients (Howard, Kopta, Krause, & Orlinsky, 1986). Howard et al. (1986) found that the greatest therapy gains came relatively fast in the first few counseling sessions and that later gains came increasingly slower (i.e., negatively decelerating change curve). Since that time, other research has replicated the negatively decelerating change curve in counseling outcomes (Lambert, Hansen, & Finch, 2001). Empirical benchmarks provide a basis of comparison for whether treatment is working or not depending upon severity of problem and length of time in treatment.

The benefits of client-focused research were described as “a win-win proposition,” not only for clinicians, but “for researchers, health care organizations and patients” alike (Lambert, 2001, p. 148). After all, clinicians want to use their preferred treatment approach and not necessarily an Empirically Supported Treatment (Silverman, 1996). The researchers are not restricted to time and cost intensive methods associated with controlling treatment methods to demonstrate empirical support of treatment. HMOs have a way to monitor and demonstrate cost-effective treatment from their providers, without resorting to compliance checks and treatment plan updates (Brown et al., 1999; Miller et al., 1999). Finally, clients receive monitored care from clinician and HMO while getting to inform both parties of their progress on a regular basis. In short, client-focused research affords clinicians an alternative, practical way to demonstrate the scientific validity of their services.
Regardless of whether client-focused research or manual-based research schemes have been utilized, client factors frequently emerge as mediating or moderating factors in what causes change in therapy (Clarkin & Levy, 2004; Sotsky, Glass, Shea, Pilkonis, Collins, Elkin, Watkins, et al., 1991). Manual studies that have shown a dose-effect response to treatment of diminishing returns have been used as further evidence of the influence of non-specific factors on outcome. Tallman and Bohart’s (1999) review of common factors concluded that change was a function of client attributes and suggest that researchers “focus their study on clients rather than on therapists” (p. 199). In the most recent edition of the *Handbook of Psychotherapy and Behavior Change*, chapter authors of “The Influence of Client Variables on Psychotherapy” concluded that studying client variables may greatly improve mental health professional’s understanding of counseling effectiveness. The guiding purpose of their chapter was that “identification of premorbid clinical and personality characteristics predictive of outcome might help clinicians guide treatment choices and revise treatment methods based on the needs of different types of clients” (Clarkin & Levy, 2004, p. 195). Thus, studying client factors more comprehensively has the potential to help the mental health counseling profession measure the role of treatment more precisely, improve delivery of therapy, and ultimately create more confidence of what counselors offer to themselves, funding bodies, and the public.

A counseling maxim advises, that for best results, the clinician should “go where the client is at.” The phrase captures the notion that a client is best served not by delivering the clinician’s preconceived ideas of what a client needs, but by striving to discover and reflect as accurately as possible what the client asks for. Analogously, the
The general aim of the present counseling outcome study is to listen to the accumulated *voices* of past research findings and include factors that have *spoken* the *loudest* on outcomes. The general purpose of this study is to examine client factors, or extratherapeutic factors, that have shown the most promise in prior research, and evaluate their relationship to symptomatology for clients in ongoing counseling treatment.

**Theoretical Framework**

The theoretical framework for this study uses Lambert’s (1992) common factor model of therapy outcome. Because extratherapeutic factors (e.g., client social support, motivation, financial stability) are considered the greatest source for client outcome, this factor will be considered in the greatest detail. Closely related to extratherapeutic factors is the client’s hope, or expectancy, for helpful treatment. Both of these factors originate with the client, and therefore, both of these factors will be considered together (theoretically, according to the common factors model, accounting for 55% of the outcome variance in counseling treatment).

Qualities that clients bring with them to the sessions are theorized to exert the greatest influence on how a treatment episode ultimately goes (Lambert, 1992). After all, clients may only be in treatment for one hour a week, estimated at less than 1% of their waking hours (Whipple et al., 2003). Examples of extratherapeutic qualities are having a good home, financial stability, a loving family, caring friends, health, satisfaction with life, education, motivation, hope, chance life events, and a host of both developed and untapped innate abilities (Beutler & Clarkin, 1990; Hubble et al., 1999a; Lambert & Cattani-Thompson, 1996).

The terms Social Support or Social Network refer to the clients perceptions about their interpersonal world: quality of family life, intimate relationships, friendships, and
the interactions among these networks. Social support indicates the adequacy to which clients are satisfied with their interpersonal relationships, and suggests how well the person will do in the interpersonal psychotherapy context. Clarkin and Levy (2004) conclude that “social support is a summary statement about the interpersonal context within which the individual operates and has been found to be a potent variable in treatment outcomes” (p. 213). Because research has consistently demonstrated that subjective perceptions of social support are more influential on psychotherapy treatment outcome than objective indicators of social support (e.g., number of friends, time spent with one’s social network, length of time in the relationship), this study will measure only subjective perceptions of social support.

Stability and satisfaction with employment are regarded as critical to client response to treatment. As pointed out by Beutler and Clarkin (1990), the number of working hours frequently exceeds waking hours spent at home and likely plays a large role in maintaining ongoing mental health. Work stress emerges when work roles are not clear, when there is interpersonal stress on the job, and when feeling overwhelmed or not in control over work tasks (Fletcher & Payne, 1980; Holt, 1982; Karasek, 1979). Unemployment is related to psychological disturbance (Beutler & Clarkin, 1990), and the greater work is desired while unemployed, the greater the damage (Stafford, Jackson, & Banks, 1980; Warr, 1978). Adults attending school full time is assumed to play a similar role in mental health (Beutler & Clarkin, 1990) and is considered as part of the construct of employment in the present investigation.

In terms of motivation, this study draws on a transtheoretical model of change (Prochaska & DiClemente, 1983; Prochaska, 1999) that explains how people modify or
alter behaviors whether in therapy or not. According to the model, change is a function of five levels, or stages, of motivation an individual has towards a goal. The first stage, precontemplation, precedes serious thought of change; the second stage, contemplation, occurs when need for change becomes a consideration to think about; the third stage, preparation, describes that point in time when steps are taken to get ready for making a change; the fourth stage, action, characterizes the physical launch into the change effort; the fifth stage, maintenance, is the degree to which the new behaviors are retained. A client’s stage of motivation is theoretically critical to amount and rate of change resulting from a treatment course. For the purposes of the present dissertation, motivation will be tested for its relationship to symptom level for clients during treatment.

Hope/expectancy occurs when people believe they see one or more ways to achieve a goal and have the ability to initiate and pursue that goal (Snyder, Michael, & Cheavens, 1999). In the context of counseling, Frank and Frank (1991) conceptualized clients entering treatment as individuals believing they have failed to resolve a problem and feel demoralized and powerless to solve the situation on their own. Clients see what must happen, but have lost their determination to pursue the goal. A first step in treatment is to return hope to the client (Snyder et al., 1999). Although, in the present study, it was not possible to ascertain hope at the outset of treatment, participants were asked to estimate their pretreatment levels.

Chronicity refers to other enduring problems in other major life areas the client brings with them to the treatment episode. Chronic problems with mental health symptoms (Beutler, Clarkin, & Bongar, 2000), legal, medical (Belsher & Costello, 1988; Murphy, 1983), employment (Gelhart, Hand-Ronga, & King, 2002; Mi-Young, 2001) or
financial areas (Chiesa, Drahovad, Longo, 2000) are all added complications that theoretically affect the client’s response to treatment in psychotherapy. Chronic physical health problems reduce outcome and increase the risk for relapse (Belsher & Costello, 1988; Murphy, 1983).

The term “response rate” refers to speed of progress made by a client during treatment. Concern over response rate rose as studies reported that average time clients spent in counseling was only between six to eight sessions (Beckham, 1989; Garfield, 1986). If clients did not respond rapidly to treatment, then clients might not benefit from treatment. Identifying clients likely to fail within the first couple of counseling sessions and discovering mechanisms for rapid improvement were considered important in improving psychotherapy treatment (Crits-Christoph, Connolly, Gallop, Barber, Tu, Gladis, & Siqueland, 2001; Wilson, Fairburn, Agras, Walsh, & Kraemer, 2002). The phenomenon of rapid response has been offered as support for nonspecific or a common factors explanation for the active ingredients of mental health counseling (Ilardi & Craighead, 1999; Tang & DuRubeis, 1999). Delineation of extratherapeutic and hope factors related to varying levels of symptom severity during counseling episodes might also help future researchers identify an important source of variance in response rate.

Statement of the Problem

HMO’s have “challenged” the psychotherapy community to demonstrate comparative cost-effectiveness of different treatments in actual clinical practice (Howard et al., 1996; Ogles, Lambert, & Fields, 2002). However, therapists as well as HMOs stand to profit from discovering the active ingredients of treatment (Brown et al., 1999). Research aiming to identify client predictors for symptom amelioration will help clinicians adapt therapeutic approach to maximize outcome (Rude & Rehm, 1991). Rapid
early responses to treatment have eluded researcher attempts to identify specific ingredients and have suggested nonspecific (i.e., common factors) factors for the active ingredient behind their success (Ilardi & Craighead, 1999). In a commentary about extant knowledge of rapid response to treatment, Wilson (1999) suggested that “Finding robust, pretreatment predictors of treatment for a variety of clinical disorders remains a priority” (p.291). On the other hand, nonresponders to treatment also remain a puzzle. Approximately 10% of clients in counseling experience a worsening of symptoms (Bergin & Lambert, 1978; Mohr, 1995; Shapiro & Shapiro, 1982), while some 30-60% of clients drop out prematurely (Wierzbicki & Pekarik, 1993). Few empirical data are available to inform practitioners of whether deterioration in clients is a result of faulty treatment or particularly troubled clients (Mohr, Beutler, Engle, Shoham-Salomon, Bergan, Kaszniak, & Yost, 1990). Not just a problem for researchers, some studies show that therapists inaccurately predict which clients are likely to drop out (Auerbach, Luborsky, & Johnson, 1972; Lambert & Bergin, 1994; Lunnen & Ogles, 1998). The need for guidelines to determine when treatment should be altered has been called for (Auerbach et al., 1972; Wilson, 1999). Identification of influential extratherapeutic and hope factors associated with better mental health symptom levels might help researchers explain rapid responses and lack of responses to treatment.

Need for the Study

As reviewed by Clarkin and Levy (2004), most past research has endeavored to single out a central client variable predictive of outcome. They contended that “research focused on a constellation of salient variables will be likely to show the greatest impact on treatment process and outcome” (p. 215). Furthermore, the majority of studies have used the medical model conception to study client variables, relying on diagnosis and
purported treatment approaches. Clarkin and Levy argue that the medical model leads to an oversimplification of the client variable and magnifies the separation between research and practice. The need, as they put forth, is to study an amalgam of non-diagnostic client variables based on theory and empirical findings. In the past, such studies were often undertaken as an afterthought when the intended factors (especially treatment approach) failed to produce positive impact on outcome (Clarkin & Levy, 2004). Finally, although studies using manuals typically attempt to control client variability, client sources of variability are greater than that of treatment approach (Luborsky, McLellan, Woody, & O’Brien, 1985). A more productive avenue of research would be to explore how the diversity of client variables (i.e., extratherapeutic and hope factors) affects outcome.

**Purpose of the Study**

The purpose of this study is to evaluate the common factors extratherapeutic and hope factors relationship to symptom levels for ongoing mental health clients involved in Internet Mental Health Message Boards. Using brief, client-self-report measures, key client variables suggested by the common factor theory of counseling will be examined for their relationship to persisting mental health symptoms. Results will be discussed in the context of improving theory and measurement of counseling, as well as implications for improving quality assurance in the delivery of counseling services.

**Rationale for the Study**

If therapy outcome is largely dependent on client variables, as the common factors model of therapy outcome proposes, the proposition should be empirically testable by measuring the amount of variance client factors account for in the symptom levels reported by clients during treatment. Results will help illuminate what client factors operate in the natural setting that relate to overall symptom levels. These results will also
help determine which moderating client variables need to be accounted for when studying speed of response to treatment, as well as therapist and treatment manual contribution to outcome. If no clear results emerge, this will provide evidence against the common factor theory for counseling outcome. Null results might also suggest a general problem of measurement shortcoming in the field. In that case, emphases should be placed heavier on outcome measure development. On the other hand, should client factors relate to symptom levels as expected, then the results will help shape future research about the role of professional counselors in helping clients and in what therapists offer to the public, themselves, and to funding bodies. The following questions were investigated in this study.

**Research Questions**

1. What client factors predict lower levels of symptoms in clients during therapy treatment?

2. To what extent do client factors (extratherapeutic and hope) account for client symptom level in the course of an ongoing psychotherapy regimen?

3. Do the client factors explain over half of the treatment variance in symptom levels as would be suggested by the common factors model of treatment outcome?

**Definition of Terms**

**Bulletin boards:** Public forums that can be accessed through the Internet (e.g., Yahoo, Google, etc.) that allow people to join in online discussion about a given topic by reading previous messages from other members, adding your own, and receiving responses to your own messages. Used interchangeably with message boards.

**Client-focused research:** A method for improving outcome for the individual client by empirically monitoring ongoing treatment response.
Common factor model: Treatment elements present in therapy across diverse approaches (i.e., extratherapeutic factors, empathy, relationship strength, hope, a treatment method).

Dose-response: Refers to empirical findings in mental health counseling research showing that clients receive the greatest benefits early in treatment and have diminishing returns as treatment continues.

Empirically Supported Treatments (ESTs): Therapy approaches that have shown statistical advantage over a comparison group (i.e., control group, wait list group, alternative treatment group) with a specific diagnostic clientele (i.e., major depression, agoraphobia).

Extratherapeutic factors: Attributes about the client that exist inside and outside the therapy room (i.e., social supports, SES, physical health, ego strength).

Hope/expectancy factors: Sometimes referred to as placebo effects, refers to the client’s anticipation of improvement just by virtue of being treated by professional technique.

Mental health message boards: Message boards that are specifically created for self-help regarding specified mental health concerns (e.g., eating disorders, grief).

Message boards: Public forums that can be accessed through the Internet (e.g., Yahoo, Google, etc.) that allow people to join in online discussion about a given topic by reading previous messages from other members, adding your own, and receiving responses to your own messages. Used interchangeably with bulletin boards.
Negatively decelerating change curve: The belief that the greatest reduction of a client’s self-reported mental health symptoms occurs in the first few counseling sessions; further improvements occur increasingly slower.

Negative responder: A client whose outcome score (falls short of) the expected change score based on actuarial data (also called, slow/non responder).

Positive responder: A client whose outcome score exceeds the expected change score based on actuarial data (also called, fast/rapid responder).

Randomized Clinical Trials (RCTs): A research method aiming to control extraneous factors influencing outcome by rigorously defining client selection and therapist treatment procedures (i.e., Therapists are trained and monitored to follow a specific treatment manual; clients are selected according to a diagnosis to maximize their similarity to one another).

Response rate: The speed of progress made by a client during treatment in terms of decreased level of symptoms as determined by the client’s self-report on a normed outcome measure.

Organization of the Study

This study is comprised of an abstract, five chapters, appendices, and a list of references. The abstract and chapter 1 present the history of establishing the efficacy of counseling and modern methods to move the counseling field forward, including the value of investigating client variables on outcome. Chapter 2 reviews literature that supports variables germane to this study: Client’s social support, perception of criticism, motivation for treatment, hope in treatment, life role satisfaction, health, and factors related to SES. Chapter 3 addresses the method, design, independent and dependent variables, and the statistical method to analyze the results. Chapter 4 presents the results
of the statistical analysis. Chapter 5 summarizes the primary findings and their implications for both researchers and practitioners. Finally, the appendices display measures that were used in this study.
CHAPTER 2
REVIEW OF LITERATURE

This literature review will cover those client factors cited frequently as important extratherapeutic variables affecting counseling treatment (Clarkin & Levy, 2004; Garfield, 1994). After a brief introduction to client factors, literature on the following, client variables will be reviewed: social support, perceived criticism, motivation, expectancy/hope for treatment success, physical health, socioeconomic status (SES) and major role satisfaction, complexity/chronicity of the presenting problem for counseling including history of emotional or sexual abuse, and sociodemographic factors (i.e., gender, age, education). Last, a more recent and sophisticated research methodology using client response rate will be discussed as further evidence for the importance of the client on treatment outcome.

Research attempting to identify vital client and expectancy/hope factors impacting counseling response for the purpose of guiding clinician choice of treatment method (Hoberman, Lewinsohn, & Tilson, 1988; Rounsaville, Weissman, & Prusoff, 1981) or understanding the wide variation in client response to treatment (Bosworth, Hays, George, & Steffens, 2002; Sotsky et al., 1991) have provided indirect support for a common factors model of psychotherapy outcome. Taken as a group, client factors tend to predict a substantial portion of outcome variance. For example, in a study involving over 400 depressed clients starting counseling, Billings and Moos (1985) prospectively examined extratherapeutic factors, such as ongoing stressors, family and work environment, interpersonal relationships, and coping skills on recovery from depression.
in counseling a year later. Extratherapeutic factors at posttreatment accounted for about 23% of the outcome variance in depression and when pretreatment depression levels were included, client variables explained approximately 45% of outcome variance. In another study, Steinmetz, Lewinsohn, and Antonuccio (1983) carefully controlled for Depression level in a group counseling intervention to estimate impact of client factors and expectancy factors for improvement on depression. Client and expectancy factors accounted for roughly 25% of the outcome variance and when pretreatment levels of depression were included, about 50% of outcome in depression was explained. In two smaller studies on depression treatment (N < 50) client factors explained between 60-85% of outcome variance (Hoberman et al., 1988; Rounsaville et al., 1981). When the NIMH TDCRP study failed to find a superior treatment approach, the researchers retrospectively identified a handful of predictive client variables (Sotsky et al., 1991). Such research points to factors about the client as the key variable in explaining counseling outcome. Although substantial portions of variance have been accounted for by client factors and hope/expectancy across several studies, the precise influential client factors have been varied and inconsistent. The goal of this literature review is to focus on the most consistent predictors of outcome. Several texts were used to help guide the search: The Handbook of Psychotherapy and Behavior Change (Bergin & Garfield, 1994; Lambert, 2004), The Heart and Soul of Change (Hubble, Duncan, & Miller, 1999b), Systematic Treatment Selection: Toward Targeted Therapeutic Interventions (Beutler & Clarkin, 1990), Guidelines for the Systematic Treatment of the Depressed Patient (Beutler et al., 2000), and Who Will Benefit from Psychotherapy? Predicting Therapeutic Outcomes (Luborsky, Crits-Christoph, Mintz, & Auerbach, 1988).
Social Support

Many studies document a strong affect on counseling outcome depending upon the client’s social network. Billings and Moos (1985) conducted a 12-month prospective, longitudinal study of 380 adult depressed clients at six in-patient and out-patient clinics. The purpose was to determine the role of life stressors and social supports on various measures of outcome (e.g., depression, self-esteem). Seven indices of environmental stress (i.e., negative events, medical conditions, spouse illness, children’s illness, negative home environment, and family arguments) and six indices for social support (i.e., number of friends, number of network contacts, number of close relationships, quality of significant personal relationship, family support, and work support) were used. The results showed that even when demographics and intake depression severity was taken into account (22.1 % of the outcome variance), both environmental stressors (12.8% of the outcome variance) and posttreatment social supports (12.1% of the outcome variance) independently contributed significantly to outcome (44.9 % total variance accounted for). Within the domain of environmental stressors predicting improvements on level of depression, all seven sub-indices had nearly equivalent partial correlations, ranging from .11 to .23. However, within the domain of social support, the subjective indicators of social support were substantially greater (range -.27 to -.39) than the objective indicators (range -.11 to -.17). Although Billings and Moos did not evaluate the strength of the 13 environment stressors and social support predictors against each other, it is interesting to note that the two largest environmental stressors were both related to subjective social supports: negative home environment and family arguments. One conclusion the researchers drew was that subjective support was more important than objective indicators of support in predicting treatment outcome.
In a similar study, Moos (1990) explored the extratherapeutic effects of stress and social supports on the success of treatment programs on 265 depressed, outpatient clients. Negative stressors (e.g., medical conditions, family conflict) in the client environment were evaluated both preceding and during treatment by clients. Quality of client confidants and family supports was also assessed from client self-report. End of treatment analysis indicated that the two domains (i.e., social support and environmental stress) together explained a significant portion of variance in amelioration of depression (3% at intake), and substantially more when measured 6 months later (14% of variance). The findings, though not as robust as found in Billings and Moos’ (1985) study, supported the importance of social support in promoting positive treatment outcome.

The evidence for subjective social support as a prognosticator of favorable treatment outcome was also found in a NIMH Epidemiologic Catchment Area study involving 3,732 clients diagnosed as having symptoms of or having major depression (Landerman, George, Campbell, & Blazer, 1989). A more recent NIMH funded study that took into account of client social networks as part of the study question, essentially replicated the positive effects of subjective social support (Bosworth et al., 2002). These two NIMH study results are also consistent with studies of people recovering from problems of habit. For example, a study exploring smoking-cessation among 46 participants with a significant other found that clients successfully abstinent six months posttreatment reported significantly greater perceived helpfulness from their significant others (Mermelstein, Lichtenstein, & McIntyre, 1983). In another example, evaluation of a weight loss program showed that perceived support from friends and spouse was more predictive of successful weight loss at pretreatment than either expectations for weight
loss, % overweight, demographics, SES, or motivational factors (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992).

The literature on social support also provides evidence for the importance of the kind of social support received. For example, George, Blazer, Hughes, and Fowler (1989) explored four dimensions of social support in a longitudinal, multidisciplinary research program geared for older, adult, in-patients diagnosed with major depression. Social support was measured on the four dimensional, 30-item self-report Duke Social Support Index. Of the four dimensions, the first three reflected objective qualities, number of individuals in support network, quantity of interactions (i.e., amount of human contact), and practical supports received (i.e., cooking, repairs, sick care, transportation, financial). Only the fourth dimension of the instrument reflected subjective perceptions of social support. Results revealed pretreatment severity as the most significant predictor of improvement on depression measures, but social support was the next most powerful predictor for success. As was shown in Billings and Moos (1985) and Moos (1990), subjective social support indicators predicted outcome more so than did objective indicators of social support. However, contrary to the researchers’ expectations, clients were less depressed when they were single and had smaller social networks compared to clients who were married and had larger social networks. The authors concluded that not all relationships are helpful and that perceived satisfaction with the relationships is the component most vital to treatment success.

Along those lines, Longabaugh, Beattie, Noel, Stout, & Malloy (1993) hypothesized that value of social support on treatment outcome depended on a client desire for, or investment in his or her social supports. Longabaugh et al. (1993) examined
the response of 107 outpatient clients over 1 year in a comparative outcome study involving treatment for alcohol addiction. Longabaugh et al. tested their hypothesis by developing an instrument that measured both objective and subjective dimensions of social support. Social Investment was derived from both objective and subjective dimensions of the instrument (e.g., number of people in network and how important the people in the network were to the client), and from indicators such as, proportion of time in the client’s life spent with his or her current partner versus time spent living alone. Results of the study indicated that level of social support influenced outcome only for clients who were highly invested in their social network. The clients reporting high support remained abstinent significantly more days than clients reporting a weaker support system. In contrast, when social support was not valued as highly by clients (i.e., clients reported low social investment), the social support variable did not influence days they remained abstinent.

In sum, the evidence supports the importance of social support on treatment outcome, especially when measured by the clients’ perceived satisfaction, and in some cases, indifference with those supports. Because subjective measures of social support have more successfully predicted eventual counseling outcome than have objective measures of social support, this study will focus only on subjective social support. Therefore, the social support indicator in this study will not necessarily reflect actual, true social support, but rather, the client perceptions of that support.

Perceived Criticism

Within the construct of social support, perceived criticism from one’s significant other (i.e., spouse, partner, or parent) has been identified as a critical feature of a client’s general satisfaction with his or her social supports. Perceived criticism from one’s
significant other in particular has been shown to predict treatment outcome for a range of mental health concerns, including schizophrenia (Tompson, Goldstein, Lebell, Mintz, Marder, & Mintz, 1995), posttraumatic stress disorder (Chambless & Steketee, 1999), depression (Hooley & Teasdale, 1989), and obsessive-compulsive disorder and panic disorder with agoraphobia (Renshaw, Chambless, & Steketee, 2003).

Several studies evaluated criticism from a significant other within the construct of expressed emotion, which embodied criticism, hostility, and emotional over-involvement. Expressed emotion is assessed by interviews with a client’s significant other and in the absence of the client (Okasha, El Akabawi, Snyder, Wilson, Youssef, & El Dawla, 1994; Vaughn & Leff, 1976). Although predictive of treatment outcome, measuring expressed emotion is time-intensive (i.e., requiring a one to two hour semi-structured interview, audio recorded, and coded by trained raters) and is not from the perspective of the client themselves (Hooley & Teasdale, 1989). Using a single item that asked clients to rate their sense of criticism from significant others, Hooley and Teasdale (1989) monitored relapse rate of 39 major depressed, married clients after successful treatment and discharge from three different in-patient hospitals in England. Factors under scrutiny were levels of expressed emotion from the spouse of the client, relationship quality as measured on the Dyadic Adjustment Scale self-report measure (DAS; Spanier, 1976), and client perceived criticism both towards, and from, his or her spouse. Hooley and Teasdale’s findings demonstrated that expressed emotion, client’s perceived criticism from his or her spouse, and marital distress measured by the DAS, all were significantly related to client relapse rates. However, the clients’ sense that they were criticized by their spouse was the most potent predictor, explaining 38% of the variance. Rather than using expressed emotion,
Hooley and Teasdale speculated that the single item of perceived criticism was more incisive, tapping degree of criticism actually “getting through to” clients.

A similar finding and conclusion was reached a decade later when a client sample of obsessive-compulsive disorder (OCD) or panic disorder with agoraphobia (PDA) treated with behavioral therapy was examined (Chambless & Steketee, 1999). The time-intensive measure of expressed emotion was not as predictive of ratings on treatment target goals as was the single item asking clients to respond to perceived criticism. Even when the authors controlled for criticism and hostility from the measure of expressed emotion, perceived criticism remained significant. Chambless and Steketee concluded that objective criticism was weakly related to perceived criticism, and that learning about the latter is important in clinical work.

However, there was concern over whether perceived criticism was confounded with a client’s symptom severity or history of the presenting problem. Riso, Klein, Anderson, Ouimette, & Lizardi (1996) evaluated the convergent and discriminant validity of perceived criticism. Riso et al. (1996) studied both the client’s perceived criticism of his or her significant other and of his or her family/relatives. The study sample consisted of 34 depressed outpatients with a significant other at a New York treatment center. Using a number of established measures for comparison, perceived criticism of significant other showed discriminant validity by low correlations to symptom severity, history of problem, global functioning, and personality traits. In contrast, and as anticipated, perceived criticism showed convergent validity with marital adjustment and social functioning. With regard to the measure of client perceived criticism from family or relatives, though it showed good discriminant validity, it showed poor convergent
validity with subjective social support, casting some doubt on the meaning of the measure.

Further studies testing the value of perceived criticism of significant other in predicting treatment outcome were conducted by Renshaw, Chambless, and Steketee (2001, 2003). The researchers studied samples of northeastern outpatients diagnosed with obsessive-compulsive disorder (OCD) or panic disorder with agoraphobia (PDA). They tested whether perceived criticism predicted treatment outcome independent of comorbid diagnoses or traits (2001), and pretreatment severity using structural equation modeling (2003). In both studies, perceived criticism emerged as a significant, independent predictor of outcome.

Few studies using perceived criticism have failed to find it predictive of outcome or relapse. One that did was a study of 32 Egyptian outpatients after being treated for depression and evaluated nine months posttreatment (Okasha et al., 1994). However, an important cultural difference in the noted by Okasha et al. was the high level of client suspicion towards the measure. Clients reportedly questioned the motives for quantifying criticism of their significant others. Seven of the 32 clients refused to respond to the item. The remaining 25 clients only responded to a modified (non-numeric), version that asked whether perceived criticism was either low, moderate, or high. The scale was reduced from a 10-point Likert scale to a 3-point Likert scale. This restricted range reduced power to detect significance and may have accounted for Okasha et al. discrepant findings (Renshaw et al., 2003).

The majority of research about perceived criticism is that it is an efficient method to gain important prognostic treatment information. The research about perceived
criticism regarding family members is less clear or established as a predictor of counseling success as perceived criticism of the significant other.

**Motivation**

A number of studies comment on the difficulty of treating a client unmotivated to change (Luborsky, Chandler, Auerbach, Cohen, & Bachrach, 1971; Strupp, Wallach, Wogan, & Jenkins, 1963). Researchers have attempted to characterize nuances of motivational problems in a host of ways, all of which have negatively related to outcome: client unwillingness to engage in the treatment process (Gomes-Schwartz, 1978), commit to therapy (Gaston, Marmar, Thompson, & Gallagher, 1988), client resistance to therapy (Bischoff & Tracey, 1995), or reactance, or opposition to therapist influence (Arnow, Manber, Blasey, Klein, Blalock, Markowitz, Rothbaum et al., 2003). Most of these client characteristics have been assessed by trained raters who coded recorded psychotherapy sessions (Orlinsky, Grawe, & Parks, 1994; Stoolmiller, Duncan, Bank, & Patterson, 1993). Where self-report instruments have been used, the instruments tend to be either lengthy (Jackson, 1984) or limited in concurrent and predictive validity (Seibel & Dowd, 1999). One exception stems from the transtheoretical stages of change model for behavior change (McConnaughy, Prochaska, & Velicer, 1983) that was designed to integrate diverse schools of psychology (Prochaska, 1999). The stages of change model was largely based on how people change from habit disorders and research has shown support for its ability to detect those ready to benefit from help and those who are not as ready (Clarkin & Levy, 2004).

In a study involving volunteers for a smoking cessation program (DiClemente, Prochaska, Fairhurst, Velicer, Velasquez, & Rossi, 1991), participants were compared on a number of variables depending on whether they were in preparation, contemplation, or
precontemplation for quitting the habit. These pretreatment categories discriminated well between those prepared to change and those not. For example, participants prepared to change were smoking less cigarettes per day, began smoking later in the day, and had the greatest number of attempts quitting compared to clients in contemplation or precontemplation stages. A similar trend continued at six month follow-up: A greater percent of participants in the prepared stage of change had attempted quitting compared to those in contemplation stage, which in turn was greater than those in precontemplation. Even more telling in terms of readiness to change was that success in quitting the habit was significantly greater for clients in the preparation stage than clients in either contemplation or precontemplation stages.

A study for weight control using hospital staff members explored client factors influencing weight loss (Prochaska et al., 1992). At pretreatment, Prochaska and colleagues factored in client demographics, previous weight loss history and expectancy for improvement, self-efficacy for weight loss, social supports, process variables related to change (e.g., self-liberation, counterconditioning, etc.), and stages of change variables. Among these pretreatment variables, a multiple regression analysis revealed stages of change accounted for 6% of posttreatment weight loss, comparable to that explained by demographics (7%) and weight loss history and expectations for success (9%). Only social support explained substantially more of the outcome variance (17%).

More specific to psychotherapy, Brogan, Prochaska, and Prochaska (1999) attempted to distinguish between what clients would dropout prematurely (against therapist advise before 10 sessions), appropriately (agreement with therapist before 10 sessions), or continuance in treatment. Discriminant analysis was used to test accuracy of
classification into each of these three groups based on either client self-report motivational or demographic variables. Motivational, but not demographic variables doubled the accuracy by which clients could be classified into premature, appropriate, or continuer therapy groups compared to chance placements. Among variables in the stages of change measure, clients in the precontemplation and contemplation stages improved accuracy of the classification.

**Expectancy/Hope**

Client expectation has a relatively long history of relating to successful treatment outcomes, and has been summarized in early major psychotherapy outcome reviews (Garfield, 1978; Luborsky et al., 1971). Client expectancy for outcome has been evaluated a number of times and using different methods. The methods reviewed here are ones drawn from studies that measured client expectancy before client exposure to treatment. The measures thus tap the clients’ preconceived hope about how well therapy will unfold and are not based on perceptions about the counselor or treatment approach.

In a relatively early example of the approach, Steinmetz et al. (1983) tried to find the best predictors of therapy outcome for 75 depressed adult clients. Steinmetz et al. examined client demographic information, social adjustment, perceived locus of control, reading ability, and client expectancy for positive outcome. Before treatment commenced, clients completed the dependent variable in the study, the Beck Depression Inventory (BDI), and then estimated how much he or she would improve on the same BDI. The greater the difference between self-reported depression and expectancy for change in pretreatment depression indicated level of hope. The treatment episode involved eight weeks of psychoeducational groups that proceeded according to a specific textbook. By the conclusion of treatment, client depression level was significantly
reduced. A multiple regression revealed that after controlling for pretreatment depression level, positive expectancy accounted for almost twice as much outcome variance as any other factor (10.5% of outcome variance compared to 5.6% accounted for by the next best predictor—Reading Ability).

Using a different method of assessing hope, participants in a weight loss intervention predicted amount of weight they expected to lose prior to treatment (Prochaska et al., 1992). At the end of the weight loss regimen, the pounds participants expected to lose at pretreatment, along with weight history, explained 9% of the variance in weight loss achieved at posttreatment. Another study measured expectations employing a 19-item instrument on pessimism (Hoberman et al., 1988). The aim of the study was to discover qualities predicting improvement in a group treatment for depressed clients. Only client impressions of group relationship strength (e.g., cohesiveness) explained more outcome variance than client hope for improvement.

Gaston, Marmar, Gallagher, and Thompson (1989) used a variation on client expectancies to improve behavioral therapy, cognitive therapy, or brief dynamic therapy for depression in older adults. Clients were asked to evaluate their expectancies for the kind of therapeutic tasks that would be helpful in relieving their depression. The results showed that only when clients both expected change to occur through behavioral and cognitive tasks, and received cognitive therapy, did expectancies predict improvement in depression. One conclusion these authors drew was that client expectation about how change occurs may have “limited importance in predicting outcome in psychotherapy” (pp. 301). General expectation about outcome may be more predictive than tapping expectations about how that outcome will come about.
Along these lines, Sotsky and colleagues (1991) explored client predictors of positive treatment response in 162 clients completing the full 16-week NIMH TDCRP study. The researchers analyzed 26 client factors known to influence outcome, separating them into three major domains: (1) sociodemographic factors; (2) diagnostic and treatment course factors; and (3) symptom, function, and personality factors. Across treatment conditions, only four client factors significantly predicted decrements in depression severity: Two factors were related to depression severity (discussed below under Chronicity of Problems). The other two factors foretelling success were lower cognitive dysfunction, and germane to this review, higher client expectations of improvement based on a single 5-point Likert scale item.

Using a similar method of measuring expectancy, Chambless, Tran, and Glass (1997) explored predictors of successful treatment with social phobia clients using cognitive-behavioral group therapy. Client variables examined were treatment expectancy, personality pathology (e.g., avoidant personality disorder, histrionic personality disorder), pretreatment depression, and use of medication. Results at termination showed that treatment expectancy was significantly related to outcome, but that avoidant traits were more powerful. However, at six months follow-up, this was no longer the case. Expectancy and pretest depression each significantly explained 5% of the outcome variance, while the effect of avoidant traits no longer impacted outcome. The authors recommended that expectancy for positive treatment outcome deserved greater attention in future research.

Similarly, Safren, Juster, & Heimberg (1997) studied the relationship between client expectancies about his or her cognitive-behavioral group treatment for social
phobia. Self-report ratings of expectancy for the 113 adult clients were administered after the first and fourth sessions. Clients also completed self-report instruments assessing their social phobia and depression. Results showed that after partialling out shared variance between initial expectancies and pretreatment severity, expectancies were negatively correlated ($r = -0.21$) with both the BDI and Hamilton Rating Scale for Depression. Expectancies were also negatively correlated ($r = -0.34$) with a Social Anxiety Scale measured by an independent rater. These results further support the value of considering expectancies as an influence on outcome.

**Physical Health**

Physical health status impacts mental well-being. Some studies have reported that medical problems can either precipitate a depressive condition or interfere with recovery from it (Alexopoulos, Barnett, Meyers, Young, Kakuma, Feder, Einhorn et al., 1996). For example, a longitudinal, national sample of participants with musculoskeletal pain revealed that pain was more predictive of depression than other demographic variables analyzed (Magni, Moreschi, Rigatti-Luchini, & Merskey, 1994). Banks and Kerns (1996) provided an in-depth review of literature to explain the high rate of depression accompanying chronic pain. Nine of the 14 reviewed studies that used standardized assessments of depression, such as the Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM-IV; American Psychiatric Association, 1994) or the Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robins, 1978), identified between 30% and 54% of chronic pain clients also experiencing depression. Even in an exception to this trend and Amsterdam researchers did not find major depression related to physical health problems, minor depression (i.e., depressive symptoms falling short of rigorous
diagnostic criteria for major depression) was related to failing physical health (Beekman, Penninx, Deeg, Ormel, Braam, & van Tilburg, 1997).

While not as strong as the link to depression, Banks and Kerns (1996) reported on studies that showed the high rates of depression with cardiac disease (17%), coronary artery disease (27%), and stroke (27%). Other researchers have documented that clients with Parkinson’s disease have a higher incidence of depression.

A number of investigators have found a relationship between chronic pain and other psychological problems. Chronic pain has shown strong correlations with insomnia (Wilson, Eriksson, D’Eon, Mikail, & Emery, 2002). Gatchel, Polatin, and Kinney (1995) showed that 24% of 310 chronic back pain clients also met at least one Axis II disorder. Polatin, Kinney, Gatchel, Lillo, & Mayer (1993), using a semi-structured assessment, similarly found that 51% of the sample (n = 200) of clients with lower back pain were diagnosed with a personality disorder. A smaller study of chronic pain clients (n = 17) showed that almost half of the participant also met criteria for Borderline Personality Disorder using both a self-report and semi-structured interview assessment (Sansone, Whitecar, Meier, & Murry, 2001).

Chronic pain clients have exhibited decreased household chores, outdoor work, family, social, recreational, and work related activities (Kerns & Jacob, 1993; Rudy, Kerns, & Turk, 1988) and Magni et al. (1994) suggested that disability mediates between chronic pain and the ensuing depressive symptoms.

In regard to psychotherapy specifically, medical conditions explained a significant amount of variance in studies exploring extratherapeutic pretreatment factors on treatment outcome for depressed clients (Billings & Moos, 1985; Krantz & Moos, 1988;
Moos, 1990). A year after treatment in a sample of depressed older adults, Murphy (1983) showed that physical health problems were associated with diminished success in treatment outcome.

**SES and Major Role Satisfaction**

Socioeconomic status (SES): Multiple reviews have demonstrated a clear relationship between higher education and SES characteristics and retention in treatment (Garfield, 1994; Petry, Tennen, & Affleck, 2000). However, the relationship between education and SES is more equivocal in terms of symptom amelioration (Petry et al., 2000). In one study where SES did play a role, 7% of the outcome variance in the percent of weight loss was explained by SES in conjoint with age (Prochaska et al., 1992). Although, the effect was small, Diener, Sandvik, Seidlitz, & Diener (1993) reported a significant correlation ($r = .12$) between income level and subjective well-being among a United States sample of almost 5000 adults.

A review of the extant literature on the relation between income and subjective well-being within the United States and around the world may help explain its inconsistent impact on symptom improvement in counseling (Diener and Biswas-Diener, 2002). Diener et al. (2002) postulated that the affect of income level on well-being depended on whether the individual was living in poverty. Increased income would improve sense of well-being for people living in poverty but would not improve sense of well-being for people not suffering from impoverished living conditions. Theorizing further, Diener, Oishi, and Lucas (2003) suggested that increased income for people living in poverty might make the difference for whether they could afford basic necessities like food and shelter. Attaining basic needs would measurably increase the individual’s sense of well-being. In contrast, increased income for people already
meeting their basic needs might merely provide for the acquisition of additional luxuries. Attaining additional luxuries above and beyond basic necessities may result in a diminished return of improving subjective well-being. Returning to the purpose of the current investigation, it may be that income level only exerts an effect of counseling outcome for the extreme destitute. When counseling research studies do not include people living in low income levels, SES may not predict outcome. Although the aim of the present study is not to test this hypothesis, SES has influenced outcome in enough studies to merit its inclusion in the current study.

Because time spent at work tends to be greater than waking time at home, there is an assumed relationship between life satisfaction and job satisfaction during waking hours (Tait, Padgett, & Baldwin, 1989). In Tait and colleagues meta-analysis of 34 studies (n=19,811), they found a significant correlation between life satisfaction and job satisfaction (r = .44). A recent example of this relationship was shown in a study involving 474 Korean women. Women reporting the highest levels of education, income, job satisfaction, and employment stability were four of the six quality of life variables that were associated with less depression (Mi-Young, 2001).

For people whose primary roles may take place at the home, Greenberger and O’Neil (1993) compared the effect primary roles (at home or at a traditional job) had on anxiety and depression for approximately 300 married participants. Participants were assessed for their commitment to marriage, parenting, and their job. Participants were also assessed for their perceptions of the respective demands each role placed on them, for their evaluation, satisfaction, and social supports for those roles. Results of the investigation showed that men had significantly less anxiety when they liked and spent
more time on job-related tasks. Similarly, women had significantly less anxiety when satisfied with parenting. However, women also experienced more anxiety and depression when dissatisfied by their marriage and employment. Overall, parental and job satisfaction was the most consistently related variable to anxiety for both men and women, suggesting the importance of respective life roles among married couples in counseling treatment.

When people are unemployed yet wanting work, mental health suffers. In a review of happiness and economic satisfaction, Oswald (1997) cited a number of studies that indicated that unemployed people in particular feel far less content with their lives compared to both wealthy and poor people. Oswald presented results from the first sweep of the 1991 British Household Panel Study studying psychological distress that used a random sample of approximately 6000 participants. While no effect of income was found for psychological distress, those without work reported twice the amount of psychological distress as those with work. Consistent with the negative impact of joblessness, Oswald also reviewed a number of studies that found a greater risk of suicide attempts among the unemployed versus those employed. For example, Platt & Kreitman (1985) found not only a greater incidence of suicide attempts for those unemployed, but that incidence grew as amount of time jobless increased.

More specific to psychotherapy, Firth-Cozens and Hardy (1992) investigated whether a clinical intervention could improve job attitudes, anxiety, and psychological functioning in 90 clients using a longitudinal design. After treatment, clients reported feeling more competent, in-control, and valued in their job compared to before treatment began. These feelings of job satisfaction were significantly correlated with both a
decrease in psychological symptoms and an increase in self-esteem. In a study on extratherapeutic factors for treatment with depressed clients, Billings & Moos (1985) found that job related variables accounted for a significant amount of variance in treatment outcome. Specifically, a supportive network on the job contributed positively to outcome, whereas work stress related negatively to outcome.

Employment history of clients has been researched as a prospective factor for retention in substance abuse treatment. Several studies found that having job skills or good employment history was related to retention in treatment (Kelly, Blacksin, & Mason, 2001; Platt, 1995) and helped prevent relapse (Vaillant, 1988). Alternatively, some studies have found that substance abuse clients who were either unemployed (Ginexi, Foss, & Scott, 2003), or who had high job counseling needs (McCaul, Svikis, & Moore, 2001), stayed in counseling longer compared to their peers.

In summary, the research relating to work or role satisfaction is associated with higher levels of well-being and that when dissatisfied, mental health is lower. For the present investigation, in order to include homemakers, students, disabled persons, or retired people, a general measure of role satisfaction was chosen over job satisfaction. Because SES can have an impact on psychological distress, a measure of financial security will be included.

**Complexity/Chronicity of Problems**

Outcome researchers, Beutler and Harwood (2000) performed studies to identify client prognosticators of treatment outcome. One of the six categories identified was complexity/chronicity of client problems. The category was defined by coexisting Axis I or II disorders, recurrence or frequency of the presenting problem, and the duration that the problem persists. One area of client complexity receiving recent attention is a history
of sexual abuse (Clarkin & Levy, 2004; Rogers & Norman, 2004). For example, Laffaye, Kennedy, and Stein (2003) studied 70 females with a history of physical, sexual, or emotional abuse by an intimate partner. The results revealed that females who had been abused showed lower levels of quality of life on measures of mental health, vitality, and physical, social, and role functioning, compared to females that had not been abused. In another study, the authors attempted to identify prognosticators of poor response for treatment of 452 in-patient Bulimia Nervosa clients (Gleaves & Eberenz, 1993). The researchers formed a high risk category based on clients with a history of multiple outpatient treatment episodes or an in-patient treatment episode, a history of self-injury or suicide attempts, and alcohol or drug abuse. The results showed that 8% of the Bulimia Nervosa clients were at risk for treatment failure and that, a significant number (i.e., 71%), had prior sexual abuse incidents. Nearly a third of those had at least five counts of sexual abuse incidents. Gleaves and Eberenz recommended that history of sexual abuse be evaluated prior to treatment.

One study (Safren et al., 1997) documenting the importance of chronicity showed that both greater severity and number of years clients had suffered with their presenting symptoms (i.e., social phobias, depression) negatively impacted their hope for achieving a positive treatment outcome. In a study involving older adults after treatment for depression, one of the only four significant predictors of 40 examined, was having had incidents of depression three or more times prior to the current episode (Bosworth et al., 2002). A small but significant predictor of success in group treatment of depression was the number of previous depressive episodes (Hoberman et al., 1988). Clients suffering from depression tended to fair less well when their current episode had a longer duration
compared to clients who had endured the depression for shorter amounts of time (Alexopoulos et al., 1996; Sotsky et al., 1991). Compared to clients with a single diagnosis of depression, clients diagnosed with double depression (i.e., major depression and dysthymia) predicted a more severe case of depression at the end of treatment in the NIMH TDCRP (Sotsky et al., 1991) and greater rate of relapse after treatment (Keller, Shapiro, & Lavori, & Wolfe, 1982).

Less severity of diagnosis and less a history of chronic problems have been associated with better outcomes in a psychotherapy outcome reviews (Luborsky et al., 1988). The sum of the evidence supports consideration of client history of his or her presenting problem when identifying predictors of therapy outcome.

**Sociodemographic Factors**

Reviews covering gender, age, and education typically draw conclusions suggesting these variables have little or inconsistent influence on success in counseling (Clarkin & Levy, 2004; Garfield, 1994). With regard to gender, Clarkin and Levy point that few studies purposely set out to evaluate the impact of gender on outcome. The authors cited three studies that did evaluate gender as a more complex variable concerning the impact of having same or opposite genders in client-therapist dyads in counseling. But again the results were mixed, with one study supporting same gender client-therapist dyads (Fujino, Okazaki, & Young, 1994), one study supporting opposite gender client-therapist dyads (Willer & Miller, 1978), and one study supporting neither (Flaskerud & Liu, 1991). The variable age, in an early review of factors impacting outcome (Luborsky et al., 1971) produced inconsistent findings. Of 11 studies, five had no relationship to outcome, four a positive relationship, and two a negative relationship with outcome. Almost a decade later, a large scale meta-analysis between age and
counseling success showed a correlation of zero (Smith et al., 1980). Eight years later, in a review about client relapse after recovering from depression, age again produced conflicting results (Belsher & Costello, 1988). And in the more recent Clarkin and Levy (2004) review, they concluded that age was not an important factor in determining outcome as a main effect variable. Finally, education levels show equivocal influence on counseling outcome. Education showed a relationship to outcome in 5 of 7 studies reviewed by Luborsky et al. (1971). Some evidence is presented describing a relationship between lower education and premature dropout rates in treatment (Garfield, 1986; Petry et al., 2000; Wierzbicki & Pekarik, 1993), but was considered weak in affecting outcome (Garfield, 1994).

Response Rate

As shown by Howard et al. (1986) and later by Lambert et al. (2001) dose-response curves in psychotherapy show that over half the clients entering treatment have experienced improvements by the eighth session. Research has documented that most clients only attend about six to eight sessions and that some treatment manuals do not even prescribe the primary interventions until session six (Beck et al., 1979; Ilardi & Craighead, 1999). In other words, for the average client to succeed in therapy, he or she must do so fairly rapidly. While some researchers have explored client factors for why treatment succeeds or fails (Mohr et al., 1990), others have examined client factors behind response rate to treatment (Beckham, 1989; Fennell & Teasdale, 1987).

Beckham (1989), for example, evaluated possible predictors behind rapid response to psychotherapy of depression with 23 at a mid western training program. Four predictors tested were learned resourcefulness, patient collaboration, therapist empathy, and initial depression level. Clients were considered rapid responders if they improved at
least 50% from intake to session six. Only initial scores on the Beck Depression Inventory at session one explained a significant amount of the treatment variance at termination (55%). Consistent with previous research, the most severe clients at session one made almost no gains while less severe clients made significantly more improvement by session six. Further, because the greatest improvements were made between intake and session one, Beckham speculated that technical interventions may have had less to do with change than factors related to the client or to the counseling setting. Studying efficacy of CBT with 34 depressed clients, Fennell and Teasdale (1987) showed that some clients responded more rapidly to treatment than others and suggested that how clients change might vary as a function of response rate.

Some researchers have cited rapid response as evidence for nonspecific or common factors mediating clinical improvement (Crits-Christoph et al., 2001; Ilardi & Craighead, 1994). Ilardi and Craighead reviewed eight cognitive-behavioral therapy (CBT) studies on depression that had used treatment manuals. The findings indicated that over 60% of overall symptom amelioration occurred by the fourth week of treatment and that half of the total improvement made by clients occurred by session six. Moreover, even the treatment gains made by clients classified as “nonresponders,” achieved their gains in the first four weeks. Contrary to dose-response literature, no further gains were made for the nonresponders. Because most of the benefits to treatment occurred early, Ilardi and Craighead interpreted this as evidence for nonspecific or, at least “nonspecified,” factors, because the CBT treatment manual does not prescribe cognitive modification techniques until session six.
Wilson (1999) proposed that an undetermined mechanism, perhaps behavioral homework assignments, may have accounted for the early responses in CBT studies. Wilson suggested that research methods should examine client progress on a session-by-session basis to clarify the mechanism of change. Tang and DeRubeis (1999) re-analyzed data from two of the studies reviewed by Ilardi & Craighead (1994) and highlighted limitations to statistical analyses averaging change of all clients together. Some clients are especially responsive to therapy, called “responders,” while others are less responsive, called “nonresponders.” Although both groups displayed rapid change across the first four weeks of treatment, nonresponders underwent no further change after that point whereas responders continued at roughly the same rate of change through to the end of treatment. Unless mediators for the change are investigated on a session-by-session basis (Wilson, 1999) for individual client’s time courses (Tang & DeRubeis, 1999), it will be difficult to explain response rate and identify clients who will continue to benefit from an approach and those who would benefit by a change in approach (Wilson, 1999).

To evaluate session-by-session change, researchers at Brigham Young University developed a set of procedures using actuarial data generated from a national data base using the Outcome Questionnaire-45 (OQ-45). The OQ-45 is described in detail in the section on instrumentation. The OQ-45 data base (n=11,492) was created in cooperation with a number of agencies across the United States, including community mental health centers, college counseling centers, employee assistance programs, and providers practicing under national managed behavioral health care systems. From this national data base, expected response curves depending on initial OQ-45 score were developed to standardize assessment for ongoing treatment response across client treatment episodes.
Client response slopes were generated using hierarchical linear modeling (HLM) and were averaged to provide typical response patterns depending on initial disturbance level as measured by the OQ-45. In all, 50 different groups of client response were identified by percentile clustering, with at least 220 clients in each cluster, or 2% of the 11,492 client sample (Finch, Lambert, & Schaalje, 2001).

Initial disturbance level was used for three central reasons. First, the first OQ-45 score is the most consistently available continuous measure. Second, research spanning several decades, client problems, and measures supports the notion that the healthier a client is at the start of treatment, the healthier he or she will be at the conclusion of treatment (Billings & Moos, 1985; Curry, Wagner, & Grothaus, 1990; Gottschalk, Mayerson, & Gottlieb, 1967; Haas, Hill, Lambert, & Morrell, 2002; Luborsky et al., 1971; Mann, Jenkins, & Belsey, 1981; Ogles et al., 2002). Third, change scores on the OQ-45 from initial disturbance were highly predictive of post-treatment change, explaining 17% of the variance after just one session of therapy and as high as 42% of outcome variance after three sessions (Finch et al., 2001).

Using these norms, Haas et al. (2002) evaluated 147 clients at a western university counseling center on whether rapid responders maintained their treatment gains at termination and at follow-up. Response rate to treatment was determined by averaging the difference between the client’s first three sessions to normative ERCs. The categories rapid, moderate, and slow responders corresponded to the top, middle, or bottom of the distribution for response rate. Overall, the results showed that 84% of those classified as rapid responders reliably improved by the end of treatment. The other 16% remained
about the same as at pretreatment levels. Roughly 90% of slow responders either did not change (55%) or grew worse (35%).

The results further revealed that clients who had faster rates of response to psychotherapy in the first three sessions had more healthy scores on the outcome measure at both termination and at two years follow-up compared to clients with slower rates of early response. No clients in the fast responder group deteriorated by the end of treatment. Haas and colleagues concluded that early response to therapy predicted eventual outcome. Haas et al. also speculated that faster responders to treatment might have traits that render them more motivated or prepared for counseling.

Lambert et al. (2001) and Lambert, Whipple, Bishop, Vermeersch, Gray, and Finch (2002) both used ERCs to predict clients at high risk of treatment failure early in treatment. The purpose was to alert therapists of the risk so that they could modify approaches and improve outcome. Both studies showed modest reductions in failures for these high risk clients, from 85% to 75%. However, in another study alerting therapists to ERCs of their clientele, Whipple et al. (2003) also provided assessments about client’s extratherapeutic characteristics for clients at risk of treatment failure. Early identification and feedback to clinicians improved client outcome compared to clients whose clinicians did not have such feedback. The reduction in treatment failures went from 81% down to 51%. The results supported the use of monitoring client progress and using feedback to improve outcome of slow responders to treatment. The results also suggest that slow responders likely present with more severe treatment issues.

In summary, regardless of whether manual driven studies or client-focused studies were used, the active ingredients determining response rate elude researchers. While
some researchers speculated that common factors or non-specific factors may have accounted for response rate, others hypothesized that homework assignments accounted for early improvements. The approach at Brigham Young provides a method to study session by session change and a procedure of defining rapid, moderate, or slow response based on normative data. The Brigham Young studies indicate that rapid and slow responses to treatment maintain themselves over the treatment course and as much as two years later. The researchers urge continued studies to examine client factors contributing to response to treatment (e.g., Haas et al., 2002; Whipple et al., 2003).

General Conclusion

Research on client social support over a number of studies and methods of assessment has been associated with counseling outcome. Generally, when clients perceived supports in their networks predict positive treatment outcome and that objective indicators of those same networks does not predict treatment response. One of the most important single social support predictors of outcome is perceived criticism from significant others. When criticism is strongly felt by the client, his or her success in counseling is attenuated. Like general measures of social support, subjective measures are more predictive than objective measures of criticism. Motivation has been studied with a variety of methods. One approach that has gained popularity is the transtheoretical stages of change model for behavior change proposed by Prochaska. Research from this approach has yielded modest support for the construct’s prognostic virtues. Related to motivation at the outset of treatment, is client expectancy or hope he or she has for a positive therapy venture. Although pretreatment expectancies have been measured in a number of ways, a simple, general expectancy item measure, has consistently related to treatment success. Client physical health has been linked with mental health well-being.
Health conditions, physical pain and chronic pain, have related to depressive disorders, insomnia, and personality disorders. When medical health has been included as a predictor of psychotherapy outcome, it has explained significant levels of outcome variance. While SES has not consistently predicted improvement of client symptoms in treatment, until a demonstrated predictor for the inconsistent results emerges, it should be included for its potential to explain additional outcome variance. Work history, employment, and satisfaction with primary role are variables that have impacted psychological well-being and retention in treatment. Clients who have chronic or severe episodes of a presenting problem and who have multiple diagnoses tend to show worse prognosis in treatment than clients without such complexity of conditions.

Interest in rapid response to treatment has increased to understand mechanisms for the change that occurs in early sessions to improve client response to psychotherapy. Both researchers using manuals and naturalistic methods have found rapid response in therapy to be a strong indicator of eventual treatment outcome. Controversy surrounds the mechanism for its efficacy and recommendations have been made to study change on a session-by-session basis. Recommendations have been made to track response rate on a session-by-session basis to add precision to former analyses on rapid response. In addition, client variables have been posited as a possible explanatory variable accounting for rapid response. Research identifying client factors (i.e., extratherapeutic and hope factors) might help serve as a springboard for researchers examining response rate. This study will help examine the model of common factors to move this research agenda forward.
CHAPTER 3
METHODOLOGY

Statement of Purpose

The purpose of this study is to evaluate the relationship of client factors and hope/expectancy factors on symptom levels for ongoing mental health clients participating in Internet Mental Health Message Boards. Clients’ perceptions about their levels of social support and criticism from their significant other, personal motivation and expectancy for a positive treatment experience, satisfaction with their primary role, their health, history of their presenting problem, history of past emotional or sexual abuse, and sociodemographic factors will be measured. This chapter explicates the research hypotheses, dependent and independent variables, sample population and sampling procedures, data collection procedures, instrumentation, and method of analysis.

Hypotheses

The study will test the following null hypotheses:

- Ho1: There is no significant relationship between client factors (i.e., extratherapeutic, hope factors) and client reported symptom level.
- Ho2: There is no significant relationship between client reported symptom level and client rated social support.
- Ho3: There is no significant relationship between client reported symptom level and client rated perceived criticism.
- Ho4: There is no significant relationship between client reported symptom level and client rated motivation.
- Ho5: There is no significant relationship between client reported symptom level and client rated hope/expectancy for positive treatment outcome.
Ho6: There is no significant relationship between client reported symptom level and client rated satisfaction with his or her primary life role.

Ho7: There is no significant relationship between client reported symptom level and client rated physical health.

Ho8: There is no significant relationship between client reported symptom level and client rated psychological history of his or her presenting problem.

Ho9: There is no significant relationship between client reported symptom level and client rated history of emotional or sexual abuse.

Ho10: There is no significant relationship between client reported symptom level and client report of number of counseling sessions attended for current presenting problem.

Ho11: There is no significant relationship between client reported symptom level and client rated financial security.

Ho12: There is no significant relationship between client reported symptom level and client reported education level.

Ho13: There is no significant relationship between client reported symptom level and client reported age.

**Descriptions of Variables**

**Dependent Variables**

The dependent variable is a global measure of mental health symptoms based on a client-report composite of three primary areas of their life functioning: amount of symptom distress, quality of their interpersonal relations, and social role at home, work, or school. The composite score provides a general measure of functioning across multiple client diagnoses or mental health conditions.

**Independent Variables**

There were 13 independent, or predictor variables, explored in this study. The first six were based on psychometrically validated instruments: subjective social support, perceived criticism, perception of financial security, hope(expectancy), health, and
motivation. The next seven predictor variables were single items regarding life role satisfaction, psychological history of the presenting problem, number of counseling sessions attended for the current episode, history of emotional or sexual abuse, education level, age, and gender.

The literature documents that clients with strong social supports, who do not feel criticized from a significant other, are hopeful about and motivated for treatment, are satisfied with their primary life role, have good health, and relatively short bouts of current symptoms, all have a positive impact on counseling. Participants were asked to complete these survey questions from the perspective of how they felt at the time they initiated their current face-to-face counseling course. Sociodemographic variables for clients have variable impacts on treatment course and are included for reasons of statistical control and exploratory reasons.

**Population**

The client population was comprised of members of mental health self-help message/bulletin boards who were currently involved in face-to-face professional mental health counseling. The message/bulletin board web sites were self-help forums designed to serve people coping with depression, bipolar disorder, generalized anxiety, panic disorder, social phobia, sleeping disorders, eating disorders, and grief. Forums that were excluded from sampling were conditions of psychosis, autism, mental handicaps, substance abuse or dependence, and antisocial personality disorders.

**Sampling Procedures**

Volunteers were solicited by posting messages over publicly accessible internet mental health message/bulletin board web sites inviting participation in a dissertation research study. Using a similar method in a recent study (Leibert, Archer, Munson, &
York, in press), 160 clients were solicited within a 3 months. Therefore, the period of
data collection is anticipated to require a similar time period of 3 months.

Recruitment occurred in two steps. First, searches were conducted to identify
publicly accessible mental health message/bulleting board forums. Searches primarily
targeted prevalent mental health conditions, such as depression and anxiety related
concerns. Second, rules and regulations governing research solicitation at potential
forums were reviewed because some forums explicitly prohibited solicitation for research
participants. Other forums, governed by moderators, reviewed appropriateness of content
for the forum they were overseeing. Still others, contained provisions that demanded a
lengthy review process similar to a research committee and institutional review board
(IRB). When no clear guidelines about advertising research were stated, listed contacts
were emailed with the request to advertise my study on the respective forum. Third, when
either access was granted, or at minimum not prohibited, I completed the registration
process (i.e., acquired a unique name and password) for joining the message/bulletin
board forum. Fourth, upon becoming a member of the forum, I posted an advertisement
asking for participants currently involved in face-to-face professional mental health
counseling to volunteer for my study. Interested participants were linked to the following
site: http://www.counselingsurveys.org/do.php?survey=s195197. The site provided the
purpose of the study, the estimated time involved, and the consent for participation.
Financial remuneration was not offered for participation and respondents were free to
withdraw participation at any point in the process. For example, completion of the
consent allowed access to the survey but the option was given to terminate participation.
After completing the survey, participants again had the option to submit or not submit their survey for data analysis.

Data Collection Procedures

The online survey developed was created using software at CounselingSurveys.org, a free web site maintained for the purpose of constructing Internet surveys. The surveys created at this site are designed to protect the identity of respondents while simultaneously using three methods to help identify possible duplicate responses to preserve the validity of data collection. The three methods involved computer IP (Internet Protocol) addresses, browser cookies, and time of survey submission records. The IP address, which identifies a computer or group of computers, is recorded through a process of encryption. If the same computer is used to complete a future survey, the program identifies the duplicated, albeit encrypted, IP address. That way, respondent identity is protected, but the survey highlights that the source of the survey came from a formerly used IP address, and therefore the possibility of a second survey from the same person. Browser cookies, a record of having visited a website from a particular computer (e.g., submitted an electronic survey), can recognize whether it has already been used to submit surveys. Both the IP and cookie methods provide an indication of whether the same person has sent a survey on more than one occasion. Combining these two methods with time of submission records provides further evidence of a duplicated survey response. This helps rule out the possibility that a different person submitted a survey from a computer from which a survey had been previously submitted. Therefore, the present method protects the anonymity of the respondent while meeting practice standards of validity for web-based surveys (http://www.counselingsurveys.org/counselors/). The responses were stored in the
CounselingSurveys.org database and were exported as a generic or universal spreadsheet format, comma-separated value (.csv) file. After exporting the data from the site, the .csv file was opened in Microsoft Excel for data analysis.

Instrumentation

Outcome Questionnaire-45 (OQ-45)

The OQ-45 (Lambert, Lunnen, Umpress, Hansen, & Burlingame, 1994) is a brief, 45-item, client self-report measure that is well suited for this study. Generally, it measures a broad spectrum of adult symptoms, syndromes, and stressors (Lambert, Hansen, Umpress, Lunnen, Okiishi, & Burlingame, 2003). The OQ-45 measures three domains of outcome considered essential in evaluating therapy outcome (Lambert & Hill, 1994): (1) Symptom Distress (e.g., anxiety, depression) consisting of 25-items; (2) Interpersonal Relations (e.g., subjective degree of dissatisfaction with personal relations) consisting of 11-items; and (3) Social Role (e.g., degree of subjective inability to function at work or school) consisting of 9-items.

The OQ-45 has strong psychometric validity and reliability across repeated administrations for both client and non-client populations. The internal consistency for the three subscales was .91 for Symptom Distress, .74 for Interpersonal Relations, and .71 for Social Role. However, its overall internal consistency is high (alpha = .93) and a confirmatory factor analysis demonstrated that a one-factor global measure of severity might best represent the instrument (Lambert et al., 2003). Using a normative population of university students to show stability of the measure, its test-retest reliability across repeated administrations over 10 weeks was .84 overall and from .78 to .82 on its subscales (Lambert et al., 1994; Lambert et al., 2001).
The total score of the OQ-45 also shows concurrent validity with several scales related to a host of mental health symptoms. It correlated with The Symptom Checklist 90: SCL-90 (Derogatis, 1983) that measures general psychiatric symptoms, the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970), the Inventory of Interpersonal Problems, (Horowitz, Rosenberg, Baer, Ureno, & Villesenor, 1988), and the Social Adjustment Scale (Weissman & Bothwell, 1976) all between .50-.85, and significant at the .01 level (Lambert et al., 2001).

In addition to factor analysis, the construct validity was also assessed by its sensitivity to change in a University Outpatient Clinic (Kadera, Lambert, & Andrews, 1996). Results of the study indicated that the total score and subscale scores were sensitive to change for clients in therapy sessions while simultaneously showing no change occurring for the control group of students not trying to change. The OQ-45 also demonstrated sensitivity to severity of mental health symptoms. The OQ-45 indicated more severity in an outpatient community mental health clients compared to Employee Assistance Program (EAP) clients, which were significantly more severe compared to non-clients in both the community and at the university (Lambert et al., 2003).

The questions, rated on a 5-point Likert scale, have a maximum possible score range from 0 to 180. Higher values indicate lower functioning while lower values suggest higher levels of functioning. Extensive norms have established ranges of functioning, from severe to not severe (Lambert et al., 2003). Norms show that community outpatient adult clients have an average pretreatment OQ score of 77 and that the average person not involved in counseling has an OQ score of 63. A score of 14 points or more reflects
reliable change (change not due to measurement error and is derived from Jacobson and Truax’s 1991 reliable and clinical change formulas). The OQ-45 also includes critical items for assessing danger to self, others, as well as substance abuse (Johnson & Shaha, 1996). The capacity of the OQ-45 to measure clinical change across a diversity of symptoms, diagnoses, as well as severity, makes it possible to compare therapist performance (i.e., client outcome) across clients and counseling sites.

**Duke Social Support Questionnaire (DSSQ)**

The DSSQ is a 10-item self-report, 5-point Likert scale measure of subjective social support (e.g., feeling listened to, satisfied with relationships). Original development of the DSSQ was a 35-item social support measure with 5 subscales: satisfaction with social support, perceived social support, frequency of social interaction, size of the social network, and instrumental support. Factor analysis using principal factoring supported the 5-factor model, accounting for over 80% of the variance. Only items with factor loadings exceeding .40 were retained (Landerman et al., 1989). However, in a follow-up study, only items reflecting subjectivity of that social support predicted successful treatment recovery (George et al., 1989). For the 10-item subjective social support measure used in this study, internal consistency was adequate (Cronbach’s alpha = .79) and the measure is positively related with amelioration of depression symptoms at termination at follow-up (Bosworth et al., 2002). Eight of the 10 Likert responses range from “none of the time” to “all of the time” for questions like, *Does it seem that your family and friends (i.e., people who are important to you) understand you?* The remaining two Likert responses range from “extremely dissatisfied” to “satisfied all of the time” for questions like, *How satisfied are you with the kinds of*
relationships you have with your family and friends? Higher scores indicate greater perceived social support. The complete instrument is presented in Appendix B.

Social Adjustment Scale-Self Report (SAS-SR)

The full SAS-SR is 54 six-point Likert self-report scale with nine subscales. The SAS-SR derives from the earlier SAS instrument based on an interview format. The SAS-SR has fair overall internal reliability (Cronbach’s alpha = .74). Only the one-item Economic Subscale used in this study, “Have you had enough money to take care of your own and your family’s financial needs during the last 2 weeks?” Higher scores indicate greater impairment of adjustment (Weissman & Bothwell, 1976). The item is presented in Appendix D.

Perceived Criticism Measure (PCM)

The PCM scale is a single self-report item. Clients respond to the question, “How critical is your significant other/spouse of you?” The 10-point Likert scale is anchored from 1 (not at all critical) to 10 (very critical indeed). The scale has been evaluated for psychometric properties in a number of studies. The results show that the PCM has a Test-retest reliability over 20 weeks of .75 (Hooley & Teasdale, 1989), and .80 over two weeks (Renshaw et al., 2003). Although convergent validity for PCM is mixed, its discriminant validity is supported by nonsignificant correlations with client self-reported anxiety, depression, and personality disorder traits (Renshaw et al.). Predictive validity has been demonstrated by its negative pretreatment relation to eventual treatment outcome (Chambless & Steketee, 1999; Hooley & Teasdale, 1989; Renshaw et al). While construct validity has not been established, possible confounding variables have been explored. Nonsignificant differences have been reported between PCM and gender, SES, initial severity, diagnostic group, duration of disorder, or relative type/significant other
(Renshaw et al.). The one item provides an efficient means of gathering clinically relevant information and was more predictive of outcome than a one hour plus measure designed to assess negative expressed emotion in the client’s family using semi-structured interview that required trained coders for scoring (Hooley & Teasdale, 1989). The item is presented in Appendix C.

University of Rhode Island Change Assessment (URICA Long Form)

The URICA is a 32-item, five-point Likert, self-report scale measuring stage of change in the four stage model (McConnaughy et al., 1983). Although the highest score on the four subscales (i.e., precontemplation, contemplation, action, and maintenance) identifies the client’s readiness to change, the scale is designed as a continuous measure so that participants can score high on more than one of the four stages. Construct validity for the instrument has been demonstrated using principal components factor analysis on two samples of adult outpatients for mental health services (McConnaughy et al., 1983; McConnaughy, DiClemente, Prochaska, & Velicer, 1989). Both studies produced four factor solutions corresponding to the four proposed subscales in two studies. These results also revealed simple structures for the factor solutions, therefore supporting the independence of the four factors. Internal reliabilities for each of the four subscales were also adequate, showing Cronbach’s alpha between .79 and .88 for precontemplation (P), .84 and .88 for contemplation (C), .84 and .89 for action (A), and .82 and .88 for maintenance (M). Examples of items of each subscale are below, arranged in descending order from precontemplation to maintenance:

- (P) As far as I’m concerned, I don’t have any problems that need changing.
- (C) I think I might be ready for some self-improvement.
- (A) I am doing something about the problems that had been bothering me.
• (M) It worries me that I might slip back on a problem I have already changed, so I am here to seek help.

The items are anchored from 1 (Strongly Disagree) to 5 (Strongly Agree).

Because this study is designed for clients beginning counseling for a particular problem, the maintenance subscale has been dropped. The URICA correlated with treatment outcome with habit problems (e.g., smoking, drinking) and has promise to predict outcome for psychotherapy clients (Prochaska et al., 1992). The scoring algorithm used by some researchers to yield one overall motivation measure is adding contemplation, action, and maintenance subscales and subtracting out precontemplation scores. The higher the client score, the greater is his or her level of motivation. This was the scoring algorithm used for the URICA in the present dissertation. The complete instrument is presented in Appendix F.

Treatment Expectancy Scale (TES)

The TES is a single, 5-point Likert scale item. Clients respond to the question, "Which of the following best describes your expectations about what is likely to happen as a result of your treatment?" The Likert scale ranges from 1 (I expect to feel completely better) to 5 (I don’t expect to feel any different). Because the instrument has only one item, internal reliability data are not available. However, the TES has significantly predicted outcome with depressed clients in past studies (es = .22; Meyer, Pilkonis, Krupnick, Egan, Simmens, & Sotsky, 2002) and remained significant even when other client factors were controlled (Sotsky et al., 1991). An almost identical scale ranging from 1 (I expect to feel much better) to 5 (It’s possible I could feel a little worse) showed convergent validity with Vanderbilt Psychotherapy Process Scale- subscale “patient hostility” (VPPS) r = -.54, indicating that the lower the expectation for outcome on
symptoms of depression, the greater his or her level of hostility (Foley, O’Malley, Rounsaville, Prusoff, & Weissman, 1987). The scale provides efficient information potentially predictive of client outcome. The item is presented in Appendix E.

**Health Survey Short-Form-12 (SF-12)**

The SF-12 is derived from the SF-36, a general health measure containing eight subscales: Physical functioning, Role-Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role-Emotional, and Mental Health. In studies of content validity, these eight subscales have been found to be among the most frequently measured health areas (Ware, 1999). Construct validity of the eight subscales has been demonstrated with factor analysis (Ware, Kosinski, & Keller, 1994). The measure also provides two composite scores, one for physical health and one for mental health. The physical health component has been shown excellent validity and has an estimated reliability of over .90 (Ware, 1990; Ware et al., 1994).

The SF-12 was developed to further shorten the instrument. The SF-12 correlates about .95 with the longer SF-36 version and has a test-retest reliability of .89 over two weeks in the United States (Ware, Kosinski, & Keller, 1996). Because the purpose of this instrument is the physical health component, only that subscale will be analyzed in this study. All references to the “SF-12” will hereafter refer only to the physical health composite.

The SF-12 can be self-administered in about two minutes. It has both dichotomous (Yes, No) items and Likert items from three to five response scales. Scoring of the SF-12 is norm-based standardized scores with a mean of 50 and a standard deviation of 10 in the United States (Ware et al., 1996).
Single Item Questions

Clients responded to seven additional single-question items, including gender, age, education, chronicity/counseling history, emotional and sexual abuse history, number of sessions attended, and primary life role satisfaction. The influence of sociodemographic information (i.e., gender, age, education) has been variable (Garfield, 1994), so are included in this study to consider possible influence on outcome. These sociodemographic items are presented in Appendix G.

Data Analysis

Data will be analyzed using correlation and multiple regression analysis. Zero order correlations will be used to analyze simple relationships between client predictor variables and the dependent variable. Multiple regression analysis will follow to evaluate the relationship of the whole array of client variables on the dependent variable. The adjusted $R^2$, or total variance of the model accounting for measurement error, will provide a measure of how much variance the 13 client factors explained in mental health symptom level. The squared semi-partial correlations will also be analyzed to provide a measure of independent contribution to the dependent variable controlling for all other variables in the regression model. Basic assumptions of regression will be evaluated and outliers will be examined for undue influence on the results.
CHAPTER 4
DATA ANALYSIS

The purpose of this study was to evaluate the relationship of client factors and hope/expectancy factors on symptom levels for ongoing mental health clients. The study drew from members of public Internet Mental Health Message Boards that were currently concurrently involved in professional face-to-face mental health counseling. Volunteers were directed to a web page that featured the anonymous client-self-report survey. Completed surveys were distributed to a software database accessible through a password known only to the researcher.

Data Collection and Descriptive Statistics

One-hundred fifteen mental health message/bulletin board forums were solicited for participation over a period of 13 weeks. Of those 115 forums, 74 (i.e., 64%) permitted the advertisement for this study on the forum message board. Table 1 shows the frequency distribution of forum mental health boards that allowed members to participate in this study. The majority of participating forums were related to anxiety or depression (i.e., 67.6%); nearly 15% of participating forums pertained to general mental health problems or coping with someone with a mental health problem and 7% were about mental health counseling treatment.

There were 255 responses to the survey. The 47 responses that registered either a cookie or duplicate were excluded from analysis, leaving the data set with 208 responses. Eight responses were eliminated because either the number of counseling sessions (n = 5)
or gender (_n_ = 3) was left blank, leaving 200 responses. In addition, five outliers were eliminated, leaving a total of 195 responses for the analysis.

The sample was primarily Caucasian (i.e., 96.7 %), and female (i.e., 86.2 %), with 3.3% of the respondents African American, Asian, or Multiracial. The mean age was 36.9 years old (_SD_ = 10.6), and had at least some college (i.e., 84.3 %) with the largest categories some college (i.e., 36.5 %) or a Graduate Degree (i.e., 23.4 %). The average respondent had coped with his or her presenting problem “on and off my whole life,” and had attended approximately 30-39 counseling sessions.

| Table 1. Frequency Distribution of Participating Mental Health Message Boards |
|-----------------------------|-----------|
| Forum Category              | _N_       |
| Anxiety, Panic, Agoraphobia, Phobia, Stress | 22 |
| Depression                  | 12 |
| Problems and Concerns surrounding mental health | 11 |
| Bipolar, Mania              | 5 |
| Obsessive Compulsive Disorder | 5 |
| Mental Health Therapy       | 5 |
| Anxiety and Depression      | 4 |
| Eating Disorders             | 4 |
| Sleep Problems              | 2 |
| PTSD                        | 2 |
| Self-Injury                 | 1 |
| Relationship Problems       | 1 |
Table 2 shows the descriptive statistics for the continuous variables in the study. The dependent variable, OQ-45 showed similar results ($M = 90.9$, $SD = 24.9$) as found by Lambert and colleagues (2003) published norms for an inpatient sample ($M = 88.8$, $SD = 26.7$). The scores in this sample were not significantly different from the inpatient sample as shown by a 2-sample, independent samples $t$ test, $t(195, 207) = .82$, $p > .05$, even though participants in the present study were not currently attending inpatient counseling. The other standardized measure in this study, the SF-12, provided norms for the general United States population (Ware, Kosinski, Turner-Bowker, & Gandek, 2002). The present sample was compared to the norms using a 2-sample, independent samples $t$ test. The results showed that the present sample ($M = 50.1$, $SD = 12.8$) was not significantly different from the norms ($M = 49.63$, $SD = 9.91$), $t(195, 6917) = .54$, $p > .05$.

Table 2. Descriptive Statistics for the Continuous Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>$N$</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>OQ-45*</td>
<td>195</td>
<td>27</td>
<td>168</td>
<td>90.9</td>
<td>24.9</td>
</tr>
<tr>
<td>SSS</td>
<td>195</td>
<td>10</td>
<td>45</td>
<td>28.0</td>
<td>7.8</td>
</tr>
<tr>
<td>SAS-SR</td>
<td>195</td>
<td>1</td>
<td>5</td>
<td>3.7</td>
<td>1.5</td>
</tr>
<tr>
<td>PC*</td>
<td>195</td>
<td>1</td>
<td>10</td>
<td>6.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Hope*</td>
<td>195</td>
<td>1</td>
<td>5</td>
<td>2.5</td>
<td>0.95</td>
</tr>
<tr>
<td>URICA</td>
<td>195</td>
<td>57</td>
<td>135</td>
<td>106.4</td>
<td>12.5</td>
</tr>
<tr>
<td>SF-12</td>
<td>195</td>
<td>17.8</td>
<td>72.2</td>
<td>50.1</td>
<td>12.8</td>
</tr>
<tr>
<td>Life Role*</td>
<td>194</td>
<td>1</td>
<td>5</td>
<td>2.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Age</td>
<td>193</td>
<td>12</td>
<td>65</td>
<td>36.9</td>
<td>10.6</td>
</tr>
<tr>
<td>Education</td>
<td>192</td>
<td>1</td>
<td>6</td>
<td>3.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Psy History*</td>
<td>195</td>
<td>2</td>
<td>6</td>
<td>4.9</td>
<td>1.0</td>
</tr>
<tr>
<td># Sessions*</td>
<td>186</td>
<td>1</td>
<td>10</td>
<td>4.4</td>
<td>2.7</td>
</tr>
</tbody>
</table>

* Lower scores mean greater satisfaction or shorter history of the presenting problem

Except for the item Psychological History, all single Likert scale items (i.e., Perceived Criticism, SAS-SR, Hope, Life Role Satisfaction, Education, and number of sessions attended) received scores spanning the entire possible range on the Likert scale.
For example, the item Perceived criticism ranged from 1 (not at all critical) to 10 (very critical indeed), and responses ranged from one to 10.

**Decision Rule**

The number of sessions attended was recoded because of wide variation of respondent estimates of counseling sessions attended (i.e., 1-1500 sessions) or estimating in terms of time in counseling rather than number of sessions (e.g., on and off for 25 years, in-patient for 1 year). To provide a consistent response code, the amount of counseling was recoded into a 10-point Likert scale as shown in Table 3. The first six items corresponded to increments of 10 sessions. The remaining codes were in terms of time in counseling rather than the number of sessions. Because respondents frequently reported attending weekly counseling sessions, a number between 50-60 sessions was considered equivalent to a response of 1 year. When the number of sessions reported exceeded 60 sessions, the total number of sessions was divided by 50. Therefore a response of 200 sessions was recoded to fall within the category of 1-4 years. The mean response \((M = 4.4, SD = 2.7)\) fell in the category, of 30-39 sessions.

<table>
<thead>
<tr>
<th>Likert Scale Recode</th>
<th>Partitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-9 sessions</td>
</tr>
<tr>
<td>2</td>
<td>10-19 sessions</td>
</tr>
<tr>
<td>3</td>
<td>20-29 sessions</td>
</tr>
<tr>
<td>4</td>
<td>30-39 sessions</td>
</tr>
<tr>
<td>5</td>
<td>40-49 sessions</td>
</tr>
<tr>
<td>6</td>
<td>50-60 sessions or 1 year</td>
</tr>
<tr>
<td>7</td>
<td>1+ to 4 years</td>
</tr>
<tr>
<td>8</td>
<td>5-9 years</td>
</tr>
<tr>
<td>9</td>
<td>10-14 years</td>
</tr>
<tr>
<td>10</td>
<td>15 years +</td>
</tr>
</tbody>
</table>
Reliability Estimates for OQ-45, DSSQ, and URICA

Reliability estimates were computed using SPSS 11.0 for Windows Student Version. The Cronbach’s alpha for the OQ-45 full scale score measure of severity (N = 172) was .94 and comparable to the internal consistency of .93 reported by Lambert and colleagues (1996). The Cronbach’s alpha for the total score for the Duke Social Support Questionnaire (DSSQ) was .90 (N = 189) and higher than the reliability (Alpha = .79) reported in its validation study (George et al., 1989).

Internal reliabilities for each of the four subscales of the URICA were also comparable to reported levels in past validation studies of the instrument (McConnaughy et al., 1983; McConnaughy et al., 1989). The Cronbach’s alpha for the precontemplation subscale was .85, the contemplation subscale was .89, the action subscale was .88, and the maintenance subscale was .86. A composite Cronbach’s Alpha was also calculated for contemplation, action, and maintenance subscales because subtracting out precontemplation scores gives the overall motivation score. The composite for the three subscales had a strong internal consistency of .91. In summary, all three instruments showed acceptable reliability and were very similar to levels reported in validation studies of the instruments.

Test of Assumptions, Multicollinearity, and Undue Influence

Before conducting the test of multiple regression analysis, underlying statistical assumptions and potential problems were examined to ensure the accuracy of the analysis. First, because violations of assumptions for linearity, equal conditional variance, and conditional normality can distort results (Myers & Well, 1991), these assumptions were tested using SAS version 8.2. Examination of the studentized residuals, a
standardized measure of error from the regression plane, showed that the three assumptions were met satisfactorily.

Another potential problem in multiple regression analysis is the presence of multicollinearity, two or more independent variables related to each other. The presence of multicollinearity reduces power to detect significance. One measure of multicollinearity used by SAS is whether each independent variable shows high Tolerance (i.e., TOL ≥ .1). All independent variables in this study showed a Tolerance exceeding .1 and were therefore were not collinear with one another.

The term outlier denotes data points that deviate far from the regression plane and can have a dramatic effect on the analysis (Pedhazur, 1982). Outliers can be detected by evaluating plots of Studentized residuals greater than +/- 2.0, or for extreme points with respect to the rest of the data. Examination of the Studentized residuals indicated the presence of five outliers (Range +/- 2.68 to 3.47). The five outliers were removed from the study.

Finally, extreme values on the independent variables can cause undue influence on the regression coefficients and predicted values. The SAS procedure used provided DFBETAS, a studentized measure of influence of each data point on the Intercept and Regression coefficients. The DFBETAS were examined for unusually large values with respect to the rest of the data. Because no large discrepancies were found, the data set appeared free of data exerting undue influence on the results. With these preliminary analyses completed, discussion is turned towards the findings.

Correlation Analysis

The Correlation analysis revealed that eight of the 13 client variables were significantly related to lower symptom levels as measured by the OQ-45. The correlation
matrix is presented in Table 4. The four scales (i.e., DSSQ, SF-12, SAS-SR, and Education Level) where high scores corresponded to greater social support, health, financial security, or education, were all negatively related to the OQ-45. The four scales (i.e., Life Role Satisfaction, Psychological History, History of Emotional or Sexual Abuse, Hope/Expectancy) where low scores corresponded to greater life role satisfaction and hope, shorter histories of the presenting problem and no experiences of abuses, were all positively related to the OQ-45. The two highest correlations were Life Role Satisfaction and social support (i.e., DSSQ) accounting for 32% and 31% of the variance in the OQ-45 scores, respectively. Chronicity, or length of time with the presenting problem, was the third highest correlation accounting for 15% of the variance in OQ-45 scores. Health (SF-12), financial security (SAS-SR), education, emotional/sexual victimization all correlated modestly with the OQ-45. Client variables that were not significantly related to the OQ-45 were perceived criticism (i.e., PCM), motivation (i.e., URICA), age, number of sessions attended for presenting problem, and gender.

Table 4. Zero-Order Correlations between Client Variable and the OQ-45

<table>
<thead>
<tr>
<th>Variable</th>
<th>OQ-45</th>
<th>DSSQ</th>
<th>SAS-SR</th>
<th>PCM</th>
<th>TES</th>
<th>URICA</th>
<th>SF-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>OQ-45</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSSQ</td>
<td>-.560***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAS-SR</td>
<td>-.292***</td>
<td>.058</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCM</td>
<td>.098</td>
<td>-.191**</td>
<td>-.131</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TES</td>
<td>.160*</td>
<td>-.088</td>
<td>-.043</td>
<td>.139</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>URICA</td>
<td>.043</td>
<td>-.002</td>
<td>.049</td>
<td>-.079</td>
<td>-.245**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>SF-12</td>
<td>-.306***</td>
<td>.162*</td>
<td>.329***</td>
<td>.013</td>
<td>-.052</td>
<td>.058</td>
<td>1.000</td>
</tr>
<tr>
<td>Age</td>
<td>-.102</td>
<td>-.058</td>
<td>.068</td>
<td>-.144</td>
<td>.023</td>
<td>.082</td>
<td>-.067</td>
</tr>
<tr>
<td>Education</td>
<td>-.254**</td>
<td>.020</td>
<td>.261**</td>
<td>-.143</td>
<td>-.147</td>
<td>.093</td>
<td>.167*</td>
</tr>
<tr>
<td>Life Role</td>
<td>.566***</td>
<td>-.258**</td>
<td>-.302**</td>
<td>-.019</td>
<td>.135</td>
<td>.014</td>
<td>-.191*</td>
</tr>
<tr>
<td>Chronicity</td>
<td>.382***</td>
<td>-.382***</td>
<td>-.112</td>
<td>.011</td>
<td>.119</td>
<td>.052</td>
<td>-.205**</td>
</tr>
<tr>
<td># Sessions</td>
<td>.019</td>
<td>-.210*</td>
<td>.038</td>
<td>.049</td>
<td>-.037</td>
<td>.152*</td>
<td>.049</td>
</tr>
<tr>
<td>Victim</td>
<td>.524**</td>
<td>-.325***</td>
<td>-.117</td>
<td>.173*</td>
<td>.001</td>
<td>.022</td>
<td>-.092</td>
</tr>
<tr>
<td>Gender</td>
<td>-.062</td>
<td>-.089</td>
<td>.014</td>
<td>.026</td>
<td>-.012</td>
<td>-.073</td>
<td>.047</td>
</tr>
</tbody>
</table>

* p < .05. ** P < .01. *** P < .0001.
Table 4. Continued.

<table>
<thead>
<tr>
<th>OQ 45</th>
<th>Age</th>
<th>Education</th>
<th>Life Role</th>
<th>Chronicity</th>
<th># Sessions</th>
<th>Victim</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSQ</td>
<td>.90</td>
<td>.109</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAS-SR</td>
<td>.05</td>
<td>-.13</td>
<td>.121</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCM</td>
<td>.13</td>
<td>-.17</td>
<td>.228**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TES</td>
<td>.08</td>
<td>-.04</td>
<td>.333***</td>
<td>.318***</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>URICA</td>
<td>.06</td>
<td>-.24**</td>
<td>-.018</td>
<td>.187*</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05. ** P < .01. *** P < .0001.

Regression Analysis

Table 5 shows the results of the regression analysis of the full model of all the client variables on the dependent measure, the OQ-45. The full model is a test of the first hypothesis that there was no significant relationship between client factors (i.e., extratherapeutic, hope factors) and client reported symptom level. The results showed that the full model related to the OQ-45, $F(13, 163) = 19.70, p < .0001$. Therefore, the null hypothesis was rejected and the alternative hypothesis that client factors predicted decreased levels of client symptoms was supported. The model of client variables predicted a substantial 58% of the variance in OQ-45 scores.

Table 5. Source Table for the Model of Client Variables on the OQ-45

<table>
<thead>
<tr>
<th>Sources of Variance</th>
<th>df</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Model</td>
<td>13</td>
<td>63265</td>
<td>4866.551</td>
<td>19.70</td>
</tr>
<tr>
<td>Error</td>
<td>163</td>
<td>40267</td>
<td>247.034</td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>176</td>
<td>103532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows the results of individual client factors independently relating to lower OQ-45 scores controlling for all other independent variables in the model.
Satisfaction with Life Role (Hypothesis 6), Subjective Social Support (Hypothesis 2), older Age (Hypothesis 12), and higher levels of education (Hypothesis 9), better Physical Health (Hypothesis 8), and a shorter Psychological History (Hypothesis 10) were all significantly associated with lower symptom levels on the OQ-45, controlling for the other client variables. Satisfaction with Life Role explained a significant amount of variance, \( t = 7.11, p < .0001, r^2 = .12 \), Subjective Social Support explained nearly the same amount of variance and was significant, \( t = -6.25, p < .0001, r^2 = .09 \), while Age, \( t = -3.08, p < .0025, r^2 = .02 \), education, \( t = -2.09, p < .05, r^2 = .01 \), Physical Health, \( t = -2.06, p < .05, r^2 = .01 \), and Psychological History, \( t = 2.05, p < .05, r^2 = .01 \) explained considerably less variance in the OQ-45, though all statistically significant. The beta coefficients provide a measure of change in the OQ-45 depending upon the associated client variable. For example, for every one point increase in Life Role Satisfaction there was an associated decrease in the OQ-45 score of 8.33 points. Similarly, every one point

<table>
<thead>
<tr>
<th>Client Variable</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t Value</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>104.836</td>
<td>18.526</td>
<td>5.66</td>
<td>-</td>
</tr>
<tr>
<td>DSSQ</td>
<td>-1.153</td>
<td>0.185</td>
<td>-6.25***</td>
<td>0.093</td>
</tr>
<tr>
<td>SAS-SR</td>
<td>-0.791</td>
<td>0.903</td>
<td>-0.88</td>
<td>0.002</td>
</tr>
<tr>
<td>PCM</td>
<td>-0.271</td>
<td>0.494</td>
<td>-0.55</td>
<td>0.001</td>
</tr>
<tr>
<td>TES</td>
<td>1.564</td>
<td>1.364</td>
<td>1.15</td>
<td>0.003</td>
</tr>
<tr>
<td>URICA</td>
<td>0.116</td>
<td>0.080</td>
<td>1.45</td>
<td>0.005</td>
</tr>
<tr>
<td>SF-12</td>
<td>-0.211</td>
<td>0.103</td>
<td>-2.06*</td>
<td>0.010</td>
</tr>
<tr>
<td>Age</td>
<td>-0.379</td>
<td>0.123</td>
<td>-3.08*</td>
<td>0.023</td>
</tr>
<tr>
<td>Education Level</td>
<td>-1.902</td>
<td>0.908</td>
<td>-2.09*</td>
<td>0.010</td>
</tr>
<tr>
<td>Life Role</td>
<td>8.332</td>
<td>1.171</td>
<td>7.11***</td>
<td>0.121</td>
</tr>
<tr>
<td>Chronicity</td>
<td>2.894</td>
<td>1.413</td>
<td>2.05*</td>
<td>0.010</td>
</tr>
<tr>
<td>Number Sessions</td>
<td>-0.128</td>
<td>0.484</td>
<td>-0.26</td>
<td>0.000</td>
</tr>
<tr>
<td>Victimization</td>
<td>5.386</td>
<td>3.151</td>
<td>1.71</td>
<td>0.007</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.158</td>
<td>3.930</td>
<td>-0.04</td>
<td>0.000</td>
</tr>
</tbody>
</table>

* \( p < .05 \), ** \( p < .01 \), *** \( p < .0001 \)
change in Subjective Social Support, there was an accompanying change of -1.2 in the OQ-45 score.

Nature of the Outliers and Rationale for Outlier Exclusion

Four of the five outliers were females, had a mean OQ-45 of 45 ($SD = 4.97$), which was about half the mean OQ-45 score as the rest of the sample ($M = 90.45$, $SD = 24.25$). The other outlier was a male respondent with an OQ-45 of 129. The five outliers also had low DSSQ scores ($M = 16.6$, $SD = 6.2$) relative to the total sample ($M = 28.14$, $SD = 7.7$). The rest of the client variables were comparable between the outliers and the full sample.

The results of a multiple regression analysis conducted on the sample with the outliers included were compared to the results of the regression analysis of the full sample. A summary of the comparison is presented in Table 7.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Outliers Included ($N = 200$)</th>
<th>Outliers Deleted ($N = 195$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$ Value</td>
<td>13.280***</td>
<td>19.700***</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.469</td>
<td>.580</td>
</tr>
<tr>
<td>Significant $\Delta R^2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Role</td>
<td>.10***</td>
<td>.12***</td>
</tr>
<tr>
<td>DSSQ</td>
<td>.06***</td>
<td>.09***</td>
</tr>
<tr>
<td>Victimization</td>
<td>.03**</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>.03**</td>
<td>.02*</td>
</tr>
<tr>
<td>URICA</td>
<td>.01*</td>
<td>-</td>
</tr>
<tr>
<td>SF-12</td>
<td>-</td>
<td>.01*</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>.01*</td>
</tr>
<tr>
<td>Chronicity</td>
<td>-</td>
<td>.01*</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .0001$

As shown in Table 7, the analysis of the full model with the outliers included was significant at the .0001 level, but explained 11% less variance in OQ-45 scores than did the full model with the outliers deleted. Squared semi-partial correlations show that the two largest individual predictors of symptom levels, Life Role and DSSQ, were the same
between the two analyses. Individual client variables explaining less variance differed between the two models. To resolve the discrepancies, a robust regression method was used to analyze the data. A robust analysis is a statistical procedure that limits the influence of outliers without deleting them from the data set. The robust analysis yields more stable and reliable model estimates (Chen, 2002). The results of the robust analysis were consistent with the regression analysis without the five outliers in this data set. Therefore, the final analysis was based on the data excluding the five outliers.

Hypothesis Testing

Hypothesis 1 that there was no significant relationships between client factors (i.e., extratherapeutic, hope factors) and client reported symptom level was rejected. Hypotheses 2-13 were null hypotheses about each of the 13 individual client variables (e.g., subjective social support, physical health) and fewer symptoms on the OQ-45.

Hypothesis 2 that there was no significant relationship between client reported symptom level and client rated social support was rejected when tested by itself (i.e., zero-order correlation) and when all the other client variables were controlled (i.e., squared semi-partial correlation).

Hypothesis 3 that there was no significant relationship between client reported symptom level and client rated perceived criticism was not rejected in the zero-order correlation or the squared semi-partial correlation.

Hypothesis 4 that there was significant relationship between client reported symptom level and client rated motivation was not rejected in either test of relationship (i.e., zero-order correlation or the squared semi-partial correlation).

Hypothesis 5 that there was no significant relationship between client reported symptom level and client rated hope/expectancy for positive treatment outcome was
rejected when tested by itself (i.e., zero-order correlation) but not when all the other client variables were controlled. Therefore, hope/expectancy received only limited support and predictive of symptom level only when treated with no other client variables as predictors.

Hypothesis 6 that there was no significant relationship between client reported symptom level and client rated satisfaction with his or her primary life role was rejected when tested by itself (i.e., zero-order correlation) and when all the other client variables were controlled (i.e., squared semi-partial correlation).

Hypothesis 7 that there was no significant relationship between client reported symptom level and client rated physical health was rejected when tested by itself (i.e., zero-order correlation) and when all the other client variables were controlled (i.e., squared semi-partial correlation).

Hypothesis 8 that there was no significant relationship between client reported symptom level and client rated psychological history of his or her presenting problem was rejected when tested by itself (i.e., zero-order correlation) and when all the other client variables were controlled (i.e., squared semi-partial correlation).

Hypothesis 9 that there was no significant relationship between client reported symptom level and client rated history of emotional or sexual abuse was rejected when tested by itself (i.e., zero-order correlation) but not when all the other client variables were controlled. The history of emotional or sexual abuse was only significant when treated with no other client variables as predictors.
Hypothesis 10 that there was no significant relationship between client reported symptom level and number of sessions attended for the presenting problem was not rejected in the zero-order correlation or the squared semi-partial correlation.

Hypothesis 11 that there was no significant relationship between client reported symptom level and financial security was rejected when tested by itself (i.e., zero-order correlation) but not when all the other client variables were controlled. Therefore, financial support received limited support and was predictive of symptom level only when treated with no other client variables as predictors.

Hypothesis 12 that there was no significant relationship between client reported symptom level and client education level was rejected when tested by itself (i.e., zero-order correlation) and when all the other client variables were controlled (i.e., squared semi-partial correlation).

Hypothesis 13 that there was no significant relationship between client reported symptom level and client age was not rejected when it was the only predictor for symptom level. However, the hypothesis that client age was not predictive of lower symptom levels was rejected when other client variables are controlled (i.e., squared semi-partial correlation). Therefore, age as a predictor of symptom level, was partially supported in this study.

**Chapter Summary**

This chapter described the procedures for collection of data, response rates of participating bulletin/message board websites, decision rules, and statistical analyses. Reliability estimates were provided where relevant and assumptions of the regression analyses were considered. Hypothesis testing of the 13 research hypotheses were
examined. The results supported rejection of research hypotheses 1, 2, 6-9. Partial support was garnered for research hypotheses 5, and 10-12.
CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to evaluate the relationship of client factors and hope(expectancy) factors on symptom levels for clients undergoing mental health counseling. The following chapter provides a discussion of the findings and suggests clinical implications and future research.

Summary of the Study

This dissertation study was carried out over public Internet Mental Health Message Boards. Message Board members who were concurrently involved in professional face-to-face mental health counseling were asked to volunteer for participation. One hundred and ninety-five message board self-selected volunteers completed the battery of surveys. The survey began with a measure of overall mental health symptoms (i.e., OQ-45) that was the dependent variable in the study. The rest of the survey consisted of measures tapping various aspects of client variables (i.e., extratherapeutic and hope factors) that have shown prognostic potential from the counseling and psychotherapy literature. Multiple Regression analysis was used to determine how well the client factor model predicted symptom level of the respondents. The analysis included simple, zero-order correlations between each individual client factor and symptom level. The Regression also provided squared semi-partial correlations, which showed the contribution of explained variance in symptom level of each client factor above and beyond explained when all the rest of the client factors were already included in the analysis.
Conclusions

Three overarching research hypotheses were tested and are considered next. The first two research hypotheses will be considered together because they compliment each other. The first research hypothesis was to determine the extent to which client factors (extratherapeutic and hope) accounted for client symptom level in an ongoing counseling episode. The second research question was whether client factors explained over half of the symptom variance as implied by the common factors model of treatment outcome? The results revealed that the 13 measured client factors significantly related to client symptom level and collectively explained over half (i.e., 58%) of the variance in client symptom level. The common factor model theorized by Lambert (1992) proposed that 40% of the variance in outcome was explained by extratherapeutic factors and 15% of the variance in outcome was explained by hope that treatment would be successful. These two client factors theoretically explained about 55% of the variance in counseling symptom levels. The variance in symptom level explained by client variables in the present study (i.e., 58%) very closely approximates Lambert’s proposed common factor model for client variables (i.e., 55%). However, in contrast to Lambert’s common factor model, hope was not one of the variables that predicted client symptom level in this study. Overall, the finding supports a common factor model of counseling outcome in that the majority of reported symptom levels were accounted for by factors outside of the counseling room.

The third overarching research hypothesis was an exploratory question: Which of the 13 measured client factors were associated with positive mental health symptom levels during ongoing therapy treatment? Subjective social support significantly related to client symptom level by itself and when added the rest of the client factors were already
in the regression model. By itself, subjective social support explained the second greatest amount of variance in symptom level (i.e., 31%) of the client factors. When added to the other 12 client variables in the model, subjective social support explained an additional 9% of the variance in symptom level. The finding resembled previous research on subjective social support. For example, higher levels of subjective social support helped prevent relapse in clients with schizophrenia (Koenigsberg & Handley, 1986; Vaughn & Leff, 1976), depression (Brown & Lewinsohn, 1984; Hooley, Orley, & Teasdale, 1986; Krantz & Moos, 1988; Sherbourne, Hays, & Wells, 1995), depressed geriatric clients (Bosworth et al., 2002), and across diagnoses (Spiegel & Wissler, 1986); subjective social support also buffered the stress of job loss (Gore, 1978) and helped in a weight loss program (Prochaska et al., 1992). The amount of variance explained by social support when controlled for a number of other factors has ranged from about 3% (Steinmetz et al., 1983) to 14% (Hoberman et al., 1988).

By way of contrast, in a few studies pretreatment social support did not predict depression improvement at posttreatment (Billings & Moos, 1985) or at follow-up (Paykel, Cooper, Ramana, & Hayhurst, 1996; Sherrington, Hawton, Fagg, Andrew, & Smith, 2001). Noting the deviation in findings from the literature base, Cooper et al. (1996) observed that their sample was more severely disturbed, or depressed, than in other studies showing the benefits of social supports. Sherrington et al., (2001) joined Paykel et al. in postulating that social support plays less a role in outcome for severely depressed, or symptomatic, clients. Although the present study cannot resolve this discrepancy in findings, a point of measurement is worth noting. Besides the similarity between the two former studies in evaluating a severe population of clients, both used the
same measure of social support based on a semi-structured interview procedure (Surtees, 1980). The measure provided information about whom the client lived with, whether he or she had a confiding relationship, the amount and frequency of contact with others, and attendance at social events. Unfortunately, the measure does not appear to tap the critical variable of subjective or perceived social support that has contributed to prediction of outcome (George et al., 1989; Landerman, 1989; Riso et al., 1996). It may be that whether social support predicts outcome or not depends more on how (i.e., subjective or objective survey) it is measured than on who (i.e., severely distressed vs. minimally distressed) it is measured on. In general, evidence supporting the influence of the way measurement is executed as more influential than content of the measurement is well documented (Hill & Lambert, 2004).

Related to subjective social support was the respondents’ perceived criticism from their significant others. Perceived criticism did not relate to the client reported symptom level in the present study. This null finding is in contrast to previous studies where perceived criticism predicted worse outcome for clients coping with obsessive-compulsive disorder, panic disorder with agoraphobia, and depressive symptoms (Chambless & Steketee, 1999; Renshaw et al., 2001; 2003). In fact perceived criticism remained predictive of outcome despite controlling for a number of potentially confounding factors, such as hostility and critical comments made by family members during research interviews (Chambless & Steketee, 1999; Hooley & Teasdale, 1989), demographics, duration of the disorder, pretreatment severity, comorbid major depression and Axis II traits (Renshaw et al., 2001) or depression (Riso et al., 1996). One study that did fail to establish a link between relapse in depression and perceived criticism was a
small Egyptian sample (Okasha et al., 1994) but may have occurred due to the cultural differences. However, findings from a study about convergent and discriminant validity may help explain the present results (Riso et al., 1996). Perceived criticism was significantly related to marital quality specifically, and not to social relationships in general (e.g., friends, relatives). The measure of perceived criticism may provide a strong subjective indicator of relations with a significant other, but not with the rest of his or her social network in general. It may be that in the current study, the role of the significant other was not as important as general relations. Perhaps perceived criticism is more predictive when study participants are in married relationships. Because data about marital status was not collected in the present study, it is not possible to rule out this possibility.

In previous studies there was not general measure of subjective social support as used in this project and may partially account for the lack of significant finding in the present study. However, even when subjective social support is not included in the analysis, perceived criticism was not significant. Further, it may be that in the current study, the affect of the significant other was not as important as general relations.

The client variable motivation, as measured with Prochaska and colleagues URICA scale, did not significantly relate to client reported symptom level in this study. One reason for the lack of relationship may have resulted from the cross-sectional nature of the design. Neither pretreatment evaluations for motivation nor posttreatment counseling outcomes available to evaluate within subject treatment response as a function of motivation over time. The self-selected sample suggests that participants were motivated already. Motivation may be more appropriate in predicting outcome for shorter-term
treatment episodes with a follow-up assessment. In addition, the URICA has primarily been used in studies dealing with problems of habit, such as drinking or smoking, not necessarily mental health problems. With these design limitations in mind, the URICA has been criticized for failing to produce valid stage profiles across study samples (Carey, Purnine, Maisto, & Carey, 1999). Prochaska, DiClemente, Velicer, and Rossi (1993) showed that assessing stage of motivation could improve treatment for programs in smoking cessation, but did not use the URICA measurement. When using the URICA measurement, Prochaska et al. (1992) showed that three of four subscales on URICA significantly predicted weight loss, but Contemplation stage did not. Then in a study to identify clients who struggle to complete treatment, three of the four subscales were predictive, but Maintenance did not predict outcome (Brogan, Prochaska, & Prochaska, 1999). When a single measure of URICA was used to measure outcome (Project MATCH Research Group, 1997) one positive result emerged at 15-month follow-up, but did was not predictive at other points in time nor for all the client groups. In a more recent study of 252 outpatient substance abusers, results showed that the stages of change did not predict outcome in percentage days abstinent (Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003). Only a follow-up regression analysis of the four subscales produced a significant predictor: The Action stage. Even so, its effect size was only .02. The authors questioned the clinical utility of the instrument despite its intuitively attractive conceptualization of motivation. Unfortunately, in the present study, it is impossible to determine whether the failure to find significant predictive effects of motivation was a result of the design shortcomings, the more general mental health nature of the sample, or the instrument itself. These considerations await future studies.
Client rated hope/expectancy for successful reduction in symptoms received partial support in this study. When no other client variables were included in the model (i.e., zero-order correlation), the hope measure showed a small (i.e., 3% of variance) but significant relationship to symptom level. When all the other client variables were included in the model, hope/expectancy no longer explained a significant portion of variance in symptom level. The finding deviates from several other studies that found a benefit of high hope/expectancy on depressed clients (Hoberman et al., 1988; Sotsky et al., 1991; Steinmetz et al., 1983), socially anxious clients (Safren et al., 1997) using different measures of hope/expectancy (Chambless et al., 1997; Hoberman et al., 1988; Steinmetz et al., 1983), as well as the same measure of hope (Sotsky et al., 1991). These discrepancies might be a function of the retrospective ratings of hope/expectancies in the present study. Ratings of hope/expectancies may have been influenced by ongoing struggles with the presenting problems. Similar to the present results, a follow-up report from the NIMH TDCRP study showed that the hope/expectancy factor significantly correlated to a composite outcome measure but when data about the therapeutic relationship was added to the model, hope/expectancy was no longer significant a significant predictor of outcome (Meyer et al., 2002). Although there may be better measures of hope available than the single item used in this study (Borkovec & Nau, 1972; Devilly & Borkovec, 2000), such measures take into account client reactions after meeting the therapist. The goal in the current investigation was to explore what the client presents without influence of the counselor at all. A better evaluation of hope would be to evaluate it prospectively.
Client satisfaction with his or her Primary Life Role had a large and significant relationship to client reported symptom level. When no other client factor was included in the regression analysis, satisfaction with primary life role accounted for 32% of the variance in symptom level. Even when all the client factors were already in the model, adding primary life role factor into the model explained an addition 12% of the variance in symptom level. When all other client variables were controlled, Primary Life Role explained the greatest portion of variance in the present study. In terms of previous research, using a group psychoeducational intervention to treat depression, one client variable examined was satisfaction in 18 areas of life-roles, from health, fitness, and appearance to leisure, housing, religion, and occupational status. Life roles did not predict amelioration in depression (Hoberman et al., 1988) in one study, but did in a longitudinal follow-up project about depression (Gonzales, Lewinsohn, & Clarke, 1985). Research about work has shown a strong relationship between job satisfaction and life satisfaction ($r = .44$) in meta-analysis (Tait et al., 1989). Another study showed that getting reemployed after losing a job promotes quality of life, self-esteem, while lowering depression and anxiety compared to people that have not returned to employment (Caplan, Vinokur, Price, & Van Ryn, 1989). The Primary Life Role item used in the current study was more focused than the 18-item life role used by Hoberman et al. but broader than work role defined by employment status. Whether a person is a student, homemaker, or retiree engaged in voluntary activities, people spend a large portion of time in various work or life roles. The paucity of research on the affect of life role on psychotherapy outcome is surprising. The single item used in this study, while shows promise as a prognosticator of outcome, lacks psychometric validation and should be
interpreted cautiously. Hopefully the present research will serve as a heuristic to promote the inclusion of this variable in studies designed to understand extratherapeutic influences on therapy outcome.

Client rated physical health as measured by the widely used SF-12 was significantly correlated with client reported symptom level when other client variables were ignored. By itself, physical health explained 9% of the variance in symptom level. When all the client variables were controlled, physical health explained a small (i.e., 1%), but significant portion of additional variance. Respondent’s whose physical health was rated more positively was related to lower mental health symptomatology. The finding supports some of the literature about the impact of physical health on recovery from mental health problems. For example, physical health conditions predicted relapse in depression at follow-up (Krantz & Moos, 1988; Gonzales et al., 1985) and predicted poorer outcome at treatment completion (Moos, 1990). In another study, fewer chronic medical conditions significantly related to improved depression symptoms in a large national study, though only accounting for 3% of the variance (Sherbourne et al., 1995). In contrast, self-rated physical health did not predict outcome in a population of depressed geriatrics (Bosworth et al., 2002), middle-aged in-patient clients (Billings & Moos, 1985), or a sample whose average age was around 35 years (Hoberman et al., 1988), as was the case in this dissertation. Physical health has been evaluated objectively, as on some form of medical problems listing, like diabetes, cancer, asthma, etc. (Hoberman et al., 1988; Krantz & Moos, 1988; Sherbourne et al., 1995), or subjective ratings of physical health (Gonzales et al., 1985), or has been measured using both objective and subjective methods (Bosworth et al., 2002). No clear pattern emerges from
these findings except that, when physical health predicts outcome, it tends to be one of
the smaller sources of explanatory variance among the client variables. Further research
in this area might help to determine how important medical health is in the treatment of
mental health.

The proxy for Complexity/Chronicity was the clients’ ratings of how long they had
dealt with their presenting problem (i.e., Psychological History). Psychological History
did predict symptom level by itself and when all the other client variables were in the
model. By itself, Psychological History explained a substantial 15% of the variance in
symptom level; when all the other client variables were controlled, though significant,
Psychological History explained only an additional 1% of the variance. Although this is a
small effect, it appears to be a fairly consistent finding in the literature. For example, in a
sample involving over 1000 depressed clients, a longer history of prior bouts with
depression predicted higher probability of relapse for the current episode (Lewinsohn,
Zeiss, & Duncan, 1989). The number of previous depressive episodes accounted for a
small but significant portion of variance (2%) in depression outcome (Hoberman et al.,
1988) but a very large portion of variance (17%) in another study (Gonzales et al., 1985).
An example of the sometimes variable role of history can be observed in following the
work of researchers from North Carolina studying course of depression among geriatric
clients. In one study, three or more prior depressive episodes significantly predicted non-
remission (Bosworth et al., 2002) but number of prior episodes did not predict non-
remission in an earlier study (George et al., 1989). Some studies show that history of
previous treatment does not influence outcome in depression (Steinmetz et al., 1983), but
many do show a relationship (Clarkin & Levy, 2004). In sum, the present study replicates
a robust finding in the mental health counseling literature, that the less incidents of a given problem in one’s life, the better the prognosis.

The research question about the relationship between client reported symptom level and client rated history of emotional or sexual abuse was significant when tested by itself (i.e., zero-order correlation). Respondents reporting a history of abuse had more severe symptom levels, accounting for 6% of symptom level. When the rest of client variables were controlled, however, the contribution of abuse history to outcome disappeared. In contrast, Gleaves and Eberenz (1993) found that history of sexual abuse was a good prognosticator of poor response to treatment and recommended that history of sexual abuse be evaluated prior to treatment. In a more recent study, people reporting a history of abuse had lower levels of quality of life and mental health compared to people not reporting a history of abuse (Laffaye & Kennedy, 2003). Although not definitively supported as a predictor of lower symptom levels, the variable is worth continued attention in more controlled research projects.

The clients’ Length of Time in Counseling, as measured by their estimate of the number of counseling sessions attended, did not relate to symptom level. The result was not consistent with the dose-effect of psychotherapy literature that suggests later gains come increasingly slower (Howard et al., 1986; Lambert et al., 2001). In the present study, regardless of time in treatment, there was no change in symptom reduction. The departure from the dose-effect response is probably related to the cross-sectional design and the loose reporting measure of time in treatment. Many respondents provided very gross estimates of number of counseling sessions, such as, “about a year” in treatment. It was not possible to know whether some of these reports reflect multiple treatment
episodes that were successful, followed by relapse and a return to treatment. Additionally, it was not known what kind of treatment clients were receiving, nor how well those treatments were being executed. Alternatively, the failure of the present study to show a dose-response effect might be attributed to a different population of clientele. The clients in this study reported severity of symptom levels typically exhibited by clients undergoing inpatient treatment (Lambert et al., 2003). Whether there is a point of severity or complexity of symptoms that does not follow the typical dose-response effect remains to be revealed. There is some evidence that suggests this may be true. For example, more intense depressive episodes or prior treatment attempts significantly predicted nonremission among a sample of 395 depressed clients (Krantz & Moos, 1988). An earlier onset of depression in one’s life predicted poor response to treatment (Brown & Lewinsohn, 1984). Both the longer duration of depression episodes reported at pretreatment and the occurrence of minor depression accompanying the major depression, predicted higher severity of depression posttreatment in the NIMH TDCRP study (Sotsky et al., 1991). In summary, while it was not the purpose of the study to test a dose-response effect, the lack of such finding raises the question about whether severity and chronicity of the presenting problem alters the phenomenon.

As in past research, the demographic variables of SES, education, and age in this study were inconsistently related to lower levels of symptoms. Client ratings about his or her financial security, the measure of SES in this study, received partial support individually. When no other client factors were controlled, financial security accounted for 9% of the variance in symptom level. However, when the full model was already accounted for, financial security did not add significantly to explained variance. Although
past studies have demonstrated a fairly consistent relationship between SES and treatment retention (Petry et al., 2000; Wierzbicki & Pekarik, 1993), the relationship between SES and outcome is not convincing. Several studies, for example, show that income does not influence outcome among clients with depression (Bosworth et al., 2002; Steinmetz et al., 1983; Hoberman et al., 1988). Other reviews have suggested there was a modest relationship of education with outcome (Luborsky et al., 1988). Client education level was related to client reported symptom level in this study, explaining 6% of the variance by itself, and 1% when the rest of the client variables are controlled. Although education level predicted outcome for depressed clients (Moos, 1990) in one study, it did not predict depression outcome in several others (Bosworth et al., 2002; Brown & Lewinsohn et al., 1984; Hoberman et al., 1988; Rounsaville et al., 1981). Reviews about education status has documented that while it does influence the duration of treatment (e.g., lower education predicts premature dropout), its affect on symptom outcome has been inconsistent (Garfield, 1978; 1994; Wierzbicki & Pekarik, 1993). Perhaps the role of education level exerts a greater influence on symptom levels with an online population that tends to be a fairly well educated populations, its prognostic value should be regarded tentatively. With regard to age, older clients in the current study provided a unique independent contribution to having lower symptom levels. Although age was not significantly related to lower symptom levels by itself, when all the client variables were controlled, age significantly accounted for an additional 2% of the variance. The finding closely resembled one study showing that age significantly accounted for an additional 3.5% of variance in depression outcome with other client variables controlled (Steinmetz et al., 1983). In general, however, age has proved an
inconsistent predictor of treatment outcomes (Garfield, 1978; 1994). For example, there are several cases where age was not related to depression outcome (Bosworth et al., 2002; Hoberman et al., 1988; Rounsaville et al., 1981; Sotsky et al., 1991). In addition, sometimes younger age related to better counseling outcomes (Krantz & Moos, 1988; Steinmetz et al.) but sometimes worse (Gonzales et al., 1985). In summary, the demographic variables in this dissertation reflect the lack of a strong relationship between demographic variables and outcome found in the literature generally.

Limitations

Weakness in the internal validity resulted from relying on a self-selection sampling process (Ray, 2000). In fact, the evidence is strong that the present sample did not represent the population at large. Participants were white females who were economically well off enough to have access to internet services and were fairly well educated. Many had struggled with his or her presenting problem or problems over a number of years and may have represented a more complex population than typically found in general adult out-patient treatment placements. The participants were also not closely controlled on diagnostic features, although the majority of people were drawn from internet self-help sites dealing with either depression, anxiety, or both.

The cross-sectional correlation design made it impossible to draw causal conclusions based on the results. Because the goal of the study was to evaluate the common factors model of outcome, a major shortcoming was the design failure to include outcome data. Instead, the evaluation was limited to ongoing progress. There was no way to measure change on the basis of treatment. Therefore, the support found for the common factors model in this project must be considered tentative. To assess outcome, it
would be better to conduct a randomized, repeated measures, pretest-posttest longitudinal design to analyze pretreatment client factors on actual amounts of change.

A related limitation was that client factors may have been confounded with present symptom levels. Even though clients were asked to rate themselves on the variables before treatment began, some clients reported being in treatment for a number of years. The validity about the hope(expectancy and motivation measure would therefore be questionable. While it has been suggested that social support may be contaminated by depression (Henderson, 1984), the measure of social support in this study was shown to be independent of depression in a longitudinal analysis (Blazer & Hughes, 1991). Also, in the present study, hope(expectancy and motivation levels were similarly confounded by symptom levels as were social support levels. However, hope(expectancy and motivation levels did not correlate with varying symptom levels as subjective social support did.

Implications and Recommendations

Research

The primary finding of this research is that client factors as postulated in the common factors model of outcome were highly related to levels of mental health symptomatology. One implication is that, if client factors relate to lower symptom levels among clients receiving ongoing counseling, then client factors might also relate to lower symptom levels at outcome. If client factors relate to lower symptom levels at outcome, then these client factors measured at pretreatment might predict ultimate outcome. In other words, just as client factors highly related to symptom levels in this study, client factors might similarly exert a large influence over the success or failure on treatment in general.
Over the last few decades, researchers have tried to determine unexplained variation in treatment outcomes (Bosworth et al., 2002; Mohr et al., 1990), distinguish between clients who improve, stagnate, or deteriorate in treatment (Steinmetz et al., 1983), identify factors associated with the high risk and prevalence of recurrent depression episodes (Belsher & Costello, 1988), identify client factors behind response rate to treatment (Beckham, 1989; Fennell & Teasdale, 1987), and intervene according specific identified risk factors to improve outcome (Gonzales et al., 1985; Haas et al., 2002; Krantz & Moos, 1988; Rounsaville, et al., 1981; Rude & Rehm, 1991; Sotsky et al., 1991; Whipple et al., 2003). The client factors of social support, satisfaction with primary life role (e.g., student, home maker), prior attempts coping with the presenting problem, and to a lesser extent, education level, health satisfaction, and complexity of symptoms (i.e., history of victimization) might help future researchers identify an important source of variance in response rate.

Whether a study method follows a naturalistic or RCT approach, measuring client symptom change session by session provides more precise information about what causes rate of response (Tang & DeRubeis, 1999; Wilson, 1999). Using that approach (Haas et al., 2002), results have indicated that whatever causes rapid and slow responses to treatment, that those outcomes persist for as much as two years posttreatment. The influential extratherapeutic factors identified in the current study might be used in a longitudinal study to explain response rate to treatment. Knowledge about client symptom level after just the first three sessions has been shown to improve treatment for at risk clients (Haas et al.). Adding extratherapeutic prognosticators of outcome into the picture may advance the cause of determining, “What specific treatment, by whom, is
most effective for this individual with that specific problem, and under which set of circumstances” (Paul, 1967, p. 111)?

**Clinical**

For adult, white, well-educated females, satisfaction with their social supports, primary life role (e.g., student, retiree), fewer prior attempts at coping with their presenting problem, and to a lesser extent, higher education level, satisfaction with their physical health, and having less comorbidity of symptoms (i.e., history of victimization), all related to lower mental health symptoms. Knowledge in these areas at treatment intake might help shape the clinician create goals with the client to improve chances for success. Perceived dissatisfaction with current social supports and/or primary life roles may have the greatest relationship to clients’ ultimate well-being. Addressing such dissatisfaction might help promote recovery. There may be a need to incorporate social skills training or coping skills to promote greater socialization practices to expand the client support network. Low education or job satisfaction might suggest a strong need for career assessment and counseling. A long history of the presenting problem (e.g., social anxiety), comorbid problems (e.g., emotional abuse), may also indicate the need for a longer term treatment approach. Brief therapy may be advised for clients with strong resources but contraindicated for clients who do not.

The large portion of variance explained by client variables gives credence to the therapeutic approaches that build on client strengths and help promote coping skills in deficit areas. Client changes that have occurred between sessions, starting with changes that may have occurred between the intake appointment and the first counseling session can help mobilize client resources (Hubble, Duncan, & Miller, 1999c). As these authors point out, common factors theory of change does not translate into a counseling approach
devoid of technique. Assisting the client recognize life-improving actions executed on his or her own can be noticed and amplified by counselors (Hubble et al., 1999c). Clinician knowledge of pretreatment client factors may potentially help improve service and at the same time, teach therapists what factors dictate the most effective interventions. Future research taking advantage of client feedback about resources at intake and his or her symptoms throughout the counseling process holds promising benefits to providers and clients alike.
I would appreciate your help with my survey.

Hi,

I am a graduate researcher at the University of Florida studying people currently receiving professional face-to-face mental health counseling. Specifically, I am examining how things in our lives (e.g., friends, family support, health, etc.) affect symptoms while in counseling. If you are willing to participate, please visit this web site:

http://www.counselingsurveys.org/do.php?survey=s195197

The survey here takes between 20-30 minutes to complete. I am will to send an electronic copy of my results upon request after the study is completed. This research has been approved by the University of Florida Institutional Review Board.

Thank you for your time and attention,

Todd Leibert

**Informed Consent**

The purpose of this dissertation research is to better understand how things in your life (e.g., social/family support, health, employment) affect counseling, and ultimately, to help improve the quality of professional mental health counseling services. I invite you to participate in this study and am requesting your consent to take part in this research.

Participation requires you to complete an assessment that will take approximately 20-30 minutes.

Before you agree to take part in this study, please be aware of the following:

1. You must currently be involved in face-to-face professional counseling.
2. Your participation in this study is completely voluntary and there are no penalties for not participating. You also have the right to stop participating at any time without penalty.

3. There are no known physical, psychological, or economic risks associated with participation in this study.

4. There is no compensation to you for participating in this study. There are no direct benefits to you for participating in this study.

5. There is a large range in the questions asked, from gender and education level to more sensitive questions about abuse history and sexual fulfillment (Examples of the kinds of items on this survey ask you to rate yourself on a number of items: “I get along with others,” “How satisfied are you with the kinds of relationships you have with your family and friends?” and “I wish I had more ideas on how to solve the problem.”)

6. No names are asked for in this study. Individual results of the study will remain confidential. All data collected will remain confidential within the bounds of internet usage.

7. Privacy Policy and Security Notice: This web site does not collect any electronic information in a manner that could be used to identify who you are. This site does not use encryption technologies, therefore any information you provide could be observed by a third party while in transit.

8. You have the right to ask any additional questions of the researcher concerning the purpose of the study, your rights as a participant, and how the information will be used.

To continue, click the big button at the bottom of this screen.

I have read the above document and agree to participate.

Whom to contact if you have questions about the study: Todd Leibert, Doctoral Candidate, Department of Counselor Education, University of Florida, P.O. Box 117046, 1215 Norman Hall, Gainesville, FL 32611-7046, (352) 392-0731, leibert@ufl.edu

Supervisor Contact: James Archer, Jr., Department of Counselor Education, 1215 Norman Hall, Gainesville, FL 32611-7046, (352) 392-0731, ext 231, jarcher@coe.ufl.edu

Whom to contact about your rights as a research participant in the study: UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone number: (352) 392-0433.
APPENDIX B
DUKES SOCIAL SUPPORT QUESTIONNAIRE

1) Does it seem that your family and friends (i.e., people who are important to you) understand you?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

2) Do you feel useful to your family and friends (i.e., people important to you)?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

3) Do you know what is going on with your family and friends?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

4) When you are talking with your family and friends, do you feel you are being listened to?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

5) Do you feel that you have a definite role in your family and amount your friends?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

6) Can you talk about your deepest problems with at least some of your family and friends?
7) In time of trouble, can you count on at least some of your family and friends?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

8) When you are with you family and friends, how often do you feel lonely?
   a) none of the time
   b) hardly ever
   c) some of the time
   d) most of the time
   e) all of the time

9) How satisfied are you with the kinds of relationships you have with your family and friends?
   a) extremely dissatisfied
   b) very dissatisfied
   c) somewhat dissatisfied
   d) satisfied most of the time
   e) satisfied all of the time

10) Are you satisfied with how often you see your friends and relatives; that is, do you see them as often as you want to?
    a) extremely dissatisfied
    b) very dissatisfied
    c) somewhat dissatisfied
    d) satisfied most of the time
    e) satisfied all of the time
APPENDIX C
PERCEIVED CRITICISM SCALE
(Hooley & Teasdale, 1989)

Directions: On a scale from `Not at all Critical` to `Very Critical,’ Please check the number on the scale that best describes you.

1. **How critical** do you think the most significant person in your life **is of you?**

<table>
<thead>
<tr>
<th>Not at all Critical</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Very Critical</th>
</tr>
</thead>
</table>
APPENDIX D
SOCIAL ADJUSTMENT SCALE-SELF REPORT (SAS-SR)

Weissman & Paykel

1. Have you had enough money to take care of your own and your family’s financial needs during the last 2 weeks?
   a) I had enough money for needs.
   b) I usually had enough money, with minor problems.
   c) About half the time I did not have enough money but did not have to borrow money.
   d) I usually did not have enough money and had to borrow from others.
   e) I had great financial difficulty
APPENDIX E
TREATMENT EXPECTANCY SCALE

Which of the following best described your expectations about what was likely to happen as a result of your treatment?

1. I expected to feel completely better.
2. I expected to feel somewhat better.
3. I wasn’t sure what to expect.
4. I didn’t expect to feel much difference.
5. I didn’t expect to feel any different.
APPENDIX F
URICA (LONG FORM)
UNIVERSITY OF RHODE ISLAND CHANGE ASSESSMENT

This questionnaire is to help us improve services. Each statement describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all the statements that refer to your "problem", answer in terms of what you write on the "PROBLEM" line below. And "here" refers to the place of treatment or the program.

There are FIVE possible responses to each of the items in the questionnaire:

1 = Strongly Disagree  2 = Disagree  3 = Undecided  4 = Agree  5 = Strongly Agree

1. As far as I'm concerned, I don't have any problems that need changing.  
2. I think I might be ready for some self-improvement.  
3. I am doing something about the problems that had been bothering me.  
4. It might be worthwhile to work on my problem.  
5. I'm not the problem one. It doesn't make much sense for me to be here.  
6. It worries me that I might slip back on a problem I have already changed, so I am here to seek help.  
7. I am finally doing some work on my problem.  
8. I've been thinking that I might want to change something about myself.  
9. I have been successful in working on my problem but I'm not sure I can keep up the effort on my own.  
10. At times my problem is difficult, but I'm working on it.  
11. Being here is pretty much a waste of time for me because the problem doesn't have to do with me.  
12. I'm hoping this place will help me to better understand myself.  
13. I guess I have faults, but there's nothing that I really need to change.  
14. I am really working hard to change.  
15. I have a problem and I really think I should work at it.  
16. I'm not following through with what I had already changed as well as I had hoped, and I'm here
to prevent a relapse of the problem.

17. Even though I'm not always successful in changing, I am at least working on my problem.

18. I thought once I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it.

19. I wish I had more ideas on how to solve the problem.

20. I have started working on my problems but I would like help.

21. Maybe this place will be able to help me.

22. I may need a boost right now to help me maintain the changes I've already made.

23. I may be part of the problem, but I don't really think I am.

24. I hope that someone here will have some good advice for me.

25. Anyone can talk about changing; I'm actually doing something about it.

26. All this talk about psychology is boring. Why can't people just forget about their problems?

27. I'm here to prevent myself from having a relapse of my problem.

28. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.

29. I have worries but so does the next guy. Why spend time thinking about them?

30. I am actively working on my problem.

31. I would rather cope with my faults than try to change them.

32. After all I had done to try to change my problem, every now and again it comes back to haunt me.

**Scoring**

<table>
<thead>
<tr>
<th>Precontemplation items</th>
<th>Contemplation items</th>
<th>Action items</th>
<th>Maintenance items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 5, 11, 13, 23, 26, 29, 31</td>
<td>2, 4, 8, 12, 15, 19, 21, 24</td>
<td>3, 7, 10, 14, 17, 20, 25, 30</td>
<td>6, 9, 16, 18, 22, 27, 28, 32</td>
</tr>
</tbody>
</table>
APPENDIX G
CLIENT SOCIODEMOGRAPHIC INFORMATION (9-ITEMS)

1) Gender:
   Male: _____
   Female: _____

2) Age: _____

3) Racial/Ethnic Background:
   African Descent/Black _____
   American Indian _____
   Asian _____
   Caucasian/White _____
   Hispanic/Latino(a) _____
   Multiracial _____

4) Education:
   Some High School _____
   High School _____
   Some College _____
   Undergraduate Degree _____
   Some Graduate School _____
   Graduate Degree _____

5) Hours employed per week: _____

6) Length of Employment:
   Estimate the amount of time at the longest held job you have had:
   1. Less than 6 months.
   2. Between 6 months and 1 year.
   3. 1-2 years.
   4. 2-5 years.
   5. 5-10 years.
   6. Other.

7) Primary Life Role:
   I am satisfied with or am making progress toward a rewarding career/primary life role
   (e.g., retirement, motherhood, career, school, etc.).
   1. Very Satisfied
   2. Satisfied
3. Unsure
4. Dissatisfied
5. Very Unsatisfied

8) Previous Psychological History:
Please estimate how long you have experienced significant psychological (e.g., anxiety, depression) problems during your life?
1. This last month only.
2. About 2-6 months.
3. About 6 months to 1 year.
4. The last few years.
4. For on and off my whole life.
5. For as long as I can recall.

9) Please check if you have ever been a victim of:
   Rape ____
   Incest ____
   Sexual molestation as a child ____
   Physical/emotional abuse as a child ____
   Physical/emotional/sexual abuse by partner ____
   N/A ____
REFERENCE LIST


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Rosenzweig, S. (1936). Some implicit common factors in diverse methods of psychotherapy: “At last the Dodo said, ‘Everybody has won and all must have prizes.’” *American Journal of Orthopsychiatry, 6*, 412-415.


BIOGRAPHICAL SKETCH

Todd William Leibert was born October 8, 1964, in Syracuse New York, the last of the three children. His parents, Bob and Dixie, moved to Kansas City, Missouri, the following year where his father assumed a position at the University of Missouri as a Professor of Reading Education.

In high school, Todd’s primary academic interest was art and one painting won a national award and was displayed in a New York art show. He did not engage academically until his mid-20s when he pursued psychology as his major and anthropology as his minor. He earned his B.A. in 1991. Intrigued with human consciousness, he continued his education in a PhD program in experimental psychology at the University of South Florida in Tampa. He studied human memory for nearly three years, and earned a master’s degree, despite realizing that it was not the career for him. His interest had grown away from the internal workings of the human mind to interpersonal relations and personality. He had volunteered on a suicide hotline and had applied to the University of Florida in Gainesville in the Counselor Education Department.

He earned his M.E.D./ED.S. in December of 1998 and in the spring of 1999 became a nationally certified counselor. He worked toward mental health counseling licensure in Florida working with male, adolescent sex offenders and later, adult substance dependence in-patient clients. He returned for his PhD in counselor education in the fall of 2001 and soon after acquired his licensure. His aim was to blend his earlier
interests in research with his newer interests in mental health. He has developed a strong
interest in promoting the respect of the field of counseling through empirical research.
His dissertation marks the first step in his interest to further describe what factors make
mental health counseling so beneficial to people in the community.