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SELF-CONCEALMENT AS A PREDICTOR OF PSYCHOTHERAPY OUTCOME

by

Nicole D. Wild

A Dissertation
Submitted to the Faculty of Graduate Studies and Research
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy at the
University of Windsor

Windsor, Ontario, Canada

2003

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ABSTRACT

Psychotherapy research is aimed at discovering factors and mechanisms that influence therapy outcome to guide provision of effective treatment. One client factor that has received recent attention is self-concealment, which is a predisposition to actively conceal from others personal information that one perceives as distressing or negative (Larson & Chastain, 1990). Self-concealment has been studied in relation to attitudes toward therapy, willingness to seek therapy, and therapeutic progress. The findings, however, have been inconclusive and researchers have not studied self-concealment in relation to therapy outcome. The objective of the present study was to examine the relationship between self-concealment and distress and between change in these variables over the course of psychotherapy. The relationship between self-concealment, therapy duration and client demographics also was examined. Participants who attended outpatient psychotherapy at University of Windsor's Psychological Services Centre completed questionnaires at therapy intake and termination assessing self-concealment, global distress, depression, and state and trait anxiety. Correlation and multivariate regression analyses found that participants' self-concealment tendencies and levels of general distress, depression, and anxiety reduced from pre- to post-therapy. Although intake self-concealment was linked to intake distress, intake self-concealment was not found to be associated with termination distress, reduction in distress, premature termination from therapy, or therapist rating of client change. In contrast, reduction in self-concealment uniquely predicted reduction of all distress measures even after accounting for gender, intake distress and therapy duration. Post-hoc analyses revealed that self-concealment reduction also predicted a clinically significant reduction in global

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distress. This study's findings serve as a preliminary step in understanding the relationship between self-concealment, psychological distress, and psychotherapy outcome.

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CHAPTER 1

INTRODUCTION

The central premise of psychotherapy is to assist individuals to reduce psychological distress and improve daily functioning. Psychotherapy research is aimed at understanding how this process occurs. Its primary task is to empirically assess what factors and mechanisms influence treatment outcome and client functioning in order to provide more effective treatment.

Over the past century, researchers have examined variables that are believed to lead to either successful or poor therapy outcome. Much of psychotherapy research has focused on comparing psychotherapies to determine their differential effectiveness or to claim the superiority of one treatment over another. Unfortunately, numerous comparative outcome research studies have shown little or no differential effectiveness of alternative psychotherapy treatments, leading researchers to label this phenomenon the "Dodo Bird Verdict" (Luborsky, Singer, & Luborsky, 1975). Although many of the non-differential findings likely are due to methodological inconsistencies and limitations (Kazdin, 1998; Stiles, Shapiro, & Elliot, 1986), researchers also have identified common aspects of all therapy modalities that appear to be responsible for similar outcome (Kopta, Lueger, Saunders, & Howard, 1999). For example, Lambert and Bergin (1994) identified 30 ingredients that were common to all psychotherapies, including a positive therapeutic alliance, the therapist's rationale for clients' difficulties, and cognitive learning on the part of the client. As a result of both methodological limitations and common therapy ingredients, researchers more recently have begun to focus their investigation on potential therapist and client variables that might differentially influence therapeutic outcome.

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It is widely believed among clinicians and researchers alike that therapist characteristics are associated with and even predictive of psychotherapy outcome. As such, therapist qualities are among the most frequently studied contributors of therapeutic change (Beutler, Machado, & Neufeldt, 1994). Therapist factors include specific techniques, therapeutic style, and communication patterns that the therapist uses in therapy (e.g., Hill, 1986; Jones, Cummings, & Horowitz, 1988; Stiles, 1986), as well as level of empathy, expertise, warmth, personality style, values, and attitudes (e.g., Barrett-Lennard, 1962; Beutler et al., 1994; Carkhuff, 1969). Numerous studies have shown that these therapist factors can influence both the process and outcome in psychotherapy (Beutler et al., 1994; Hoyt, Marmar, Horowitz, & Alverez, 1981; Stiles, 1986).

The therapeutic relationship also appears to play a central role in producing change. Indeed, a trusting, open, and warm relationship between the therapist and the client is thought to be a necessary condition for successful psychotherapy outcome (Rogers, 1957). The therapeutic relationship primarily has been examined in terms of interactions between therapists and clients (Benjamin, 1974), relationship quality (Safran & Wallner, 1991) and therapeutic alliance (Gaston & Marmar, 1990).

Lastly, various client variables are thought to significantly impact the course and outcome of therapy (Garfield, 1994). Among the most frequently studied client attributes are demographic differences (e.g., gender, age, social class, education, age, diagnosis) and personality variables.

One individual difference factor that has received considerable attention from both clinicians and researchers is client self-disclosure or the act of verbally revealing personal information to others, including thoughts, feelings, and emotions (Derlega,

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Metts, Petronio, & Margulis, 1993) since self-disclosure is thought to have therapeutic value (Chaiken & Derlega, 1974; Chelune, Robinson, & Kommor, 1984; Pennebaker, 1995). Recently, however, the related but distinct construct of self-concealment is coming under increased scrutiny in relation to therapeutic process and outcome.

Self-concealment is defined as a "predisposition to actively conceal from others personal information that one perceives as distressing or negative" (Larson & Chastain, 1990; p.440). Thus, it reflects a common and familiar human experience in which people avoid telling others about uncomfortable or distressing thoughts, feelings, and information about themselves (Larson, 1993; Larson & Chastain, 1990).

Following is a review of the construct of self-concealment, including how it has been measured and conceptualized. We examined conceptual and empirical differences between self-concealment and two related but independent constructs of self-disclosure and distress disclosure. Next we investigated proposed conceptual frameworks regarding the purpose of self-concealment and its relationship to physical and psychological health outcomes. Finally, we reviewed both theoretical and empirical research regarding the association between self-concealment and psychotherapy as a preliminary step in understanding how self-concealment predicts therapeutic outcome.

Self-Concealment

Self-concealment is a common human experience. Almost every individual keeps secrets or purposely denies others personal information (Margolis, 1974). Personal information that individuals withhold from others can include thoughts, feelings, actions, or events that tend to be highly intimate and negative in valence. This information is consciously accessible to the individual but is actively kept from the awareness of others

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(Larson & Chastain, 1990). Indeed, the individual must be consciously aware of the process of concealment; otherwise he or she would not be able to accurately report on this process (Ritz & Dahme, 1996).

Self-concealment often has been referred to in the literature as keeping secrets, since most secrets involve purposefully denying others personal information (Kelly & McKillop, 1996; Margolis, 1974). Furthermore, the act of intentionally keeping personal information hidden from another person is thought to be the defining trait of secrecy (Bok, 1982). In addition, self-concealment has been noted in the literature as an aspect of inhibition (Pennebaker, 1989) and an element of the broader construct of topic avoidance (Affifi & Guerrero, 2000). All of these constructs, in turn, are conceptualized as forms of deception since they all involve keeping personal information private (Buller & Burgoon, 1996) and concealed from others (Lane & Wegner, 1995). Consequently, research investigating secret-keeping, behavioral inhibition, topic avoidance, and deception is relevant to furthering our understanding of self-concealment.

Self-Concealment Scale (SCS)

The construct of self-concealment was operationalized with the development of the Self-Concealment Scale (SCS) by Larson and Chastain (1990). Specifically, the SCS assesses the predisposition or general tendency to consciously withhold information about oneself that is perceived as negative or threatening. The SCS was developed by performing an exploratory maximum-likelihood factor analysis on 10 initial items that reflected an individual's tendency to conceal personal information from others. Although two factors initially were extracted with eigenvalues greater than 1, the authors stated that a unidimensional scale best reflected one's general tendency to self-conceal because a)

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the first factor accounted for over 65 percent of the common variance and b) the second factor was uninterpretable even after several rotational algorithms (Larson & Chastain, 1990). Cramer and Barry (1999) subsequently assessed the psychometric properties of the SCS. Although exploratory methods also suggested two subscales, both reliability and confirmatory factor analyses of an independent sample of 200 undergraduate students supported a unidimensional instrument. Moreover, high internal consistency of the SCS across studies (e.g., Cepeda-Benito & Short, 1998; Cramer & Lake, 1998; Ichiyama, Colbert, Laramore, Heim, Carone, & Schmidt, 1993; Kelly & Achter, 1995; Ritz & Dahme, 1996) supports a unidimensional scale (Nunnally, 1978).

The 10 items on the SCS refer to three aspects of the self-concealment tendency: (a) a self-reported tendency to keep things to oneself and to actively conceal personal information from others, (b) possession of a personally distressing secret or negative thoughts about oneself that have been shared with few or no other persons, and (c) apprehension about the consequences of disclosing concealed personal information (Larson & Chastain, 1990). Thus, the SCS assesses both the concealment of specific secrets and general tendencies to conceal negative information (Kahn, Achter, & Shambaugh, 2001). To date, the SCS has been used to measure individual differences in the tendency to actively conceal negative information from others and to examine associations between self-concealment, psychological symptoms and therapeutic processes (Cramer & Lake, 1998; Kahn & Hessling, 2001; Larson & Chastain, 1990).

Self-Concealment vs. Self-Disclosure

Since the introduction of self-concealment within the literature, researchers have debated whether the act of concealing personal information from others is distinct from

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self-disclosure or the act of revealing personal information to others. In general, most theorists and researchers contend that self-concealment is both empirically and conceptually distinguishable from self-disclosure. Indeed, since its origin within the literature, self-concealment has been defined as a unique entity apart from self-disclosure (Larson & Chastain, 1990).

Empirical evidence supporting a difference between self-concealment and self-disclosure. The claim that self-concealment and self-disclosure reflect distinguishable constructs primarily stems from empirical evidence. Studies have shown that, not only do scales that assess each construct reflect unique factors, but also that self-concealment and self-disclosure have unique relationships with other constructs.

First, self-concealment and self-disclosure have been empirically distinguished from each other based on factor analyses of measures assessing their respective constructs. Larson and Chastain (1990) conducted a factor analysis on the 11 items of the Self-Disclosure Index (SDI; Miller, Berg, & Archer, 1983) and 10 items of the SCS (Larson & Chastain, 1990). The authors generated a two-factor solution, with one factor containing all items from the SDI and the other factor containing all items from the SCS. Kahn and Hessling's (2001) confirmatory factor analysis of the items from the SDI and SCS generated a similar two-factor model. These findings suggest that self-concealment is a separate and distinct construct from self-disclosure (Larson & Chastain, 1990).

Second, self-concealment and self-disclosure are thought to have unique associations with various physical and psychological health outcomes. Larson and Chastain (1990) directly compared self-disclosure and self-concealment on a number of physical and psychological health measures and found that each construct had unique

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associations with the measures. Specifically, self-disclosure scores on the SDI were not significantly related to physical or psychological health, either in a positive or negative direction. Conversely, higher self-concealment scores on the SCS were associated with greater bodily, depressive, and anxiety symptoms. Although this finding lends support in favor of a distinction between self-concealment and self-disclosure, it should be replicated in future studies to provide more robust empirical evidence.

Lastly, self-concealment and self-disclosure have been shown to be differentially related to certain personality traits. Self-concealment has been associated with introversion, suspiciousness, and a preference for solitude while self-disclosure has been linked with impulsivity, extroversion, and internal-external control difficulties (Archer, 1979; Brundage, Derlega & Cash, 1977; Goodstein & Reinecker, 1974; Stokes 1987). These findings further support the claim that self-concealment and self-disclosure are distinguishable constructs.

Conceptual differences between self-concealment and self-disclosure. It has been argued that self-concealment and self-disclosure also are conceptually different since they each have independent and specific functions, operate by unique processes, and are linked with different physical and psychological health outcomes.

Self-concealment is defined as a conscious and active withholding of personal Information that one perceives as distressing or negative (Larson & Chastain, 1990). In Contrast, self-disclosure involves communicating information that, although personal in Nature, may not necessarily be of negative valence (Omarzu, 2000). It therefore has been Claimed that one's tendency to keep personally distressing information secret from others Is not the direct opposite of one's willingness to reveal one's feelings, evaluations, and

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personal experiences. However, this idea has not been clarified within the literature. The majority of studies that present self-concealment as conceptually distinct from self-disclosure do not include a rationale for this argument (e.g., Kelly & McKillop; 1996; Pennebaker, 1989). Furthermore, some researchers define high self-concealment interchangeably with low self-disclosure (Cepeda-Benito & Short, 1998; Kelly, 2000). Consequently, the conceptual differences between these two constructs are not clearly articulated within the literature.

Despite limited research highlighting conceptual differences between self-concealment and self-disclosure, these constructs are hypothesized to reflect unique styles of coping with distressing experiences. Self-concealment is thought to represent an avoidant emotion-focused coping style (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984) that impedes the cognitive-affective assimilation process required to process distressing experiences (Pennebaker, 1989). This maladaptive coping style is associated with greater psychological maladjustment (Egert, 2000; Krause & Long, 1993). In contrast, disclosure of personally negative and distressing experiences is thought to reflect an active problem-solving coping style (Carver et al., 1989; Lazarus & Folkman, 1984) that facilitates cognitive and emotional processing of one's experiences (Borkovec, Roemer, & Kinyon, 1995). This adaptive coping style is thought to allow individuals to organize, assimilate, and structure their experiences (Horowitz, 1976; Michenbaum, 1977; Silver & Wortman, 1980), and integrate their experiences within their system of meaning (Janoff-Bulman, 1989). Importantly, self-concealment as a form of avoidant/emotion-focused coping and self-disclosure as a form active/problem-solving coping reflect unique but not mutually exclusive coping styles since the ability to engage

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in active coping does not appear to preclude the use of emotional coping in the face of distress (Carver et al., 1989; Frazier & Burnett, 1994).

In addition, researchers propose that there are functional differences between self-concealment and self-disclosure. Self-concealment is thought to preserve one's desired self-image (Friedlander & Schwartz, 1985), to assist with developing one's autonomy (Afifi & Guerrero, 2000), to maintain privacy (Bok, 1982), and to reduce possible negative psychological and social consequences of revealing personal information (Derlega et al., 1993; Kelly & McKillop, 1996; Stiles, 1987). In contrast, self-disclosure is thought to assist one to develop a self-concept (Bem, 1972; Cooley, 1902; Jourard, 1964), to maintain interpersonal relationships by increasing intimacy (Chelune et al., 1984; Cozby, 1973; Tolstedt & Stokes, 1984), to fulfill a basic need for belongingness (Altman & Taylor, 1973), and to manage one's social world (Omarzu, 2000).

It also has been argued that self-concealment and self-disclosure operate by different mental processes (Kahn & Hessling, 2001; Lane & Wegner, 1995). Although both are active and conscious behaviours, self-concealment involves a process of behavioural and emotional inhibition whereas disclosure involves a process of behavioural and emotional activation in which one confronts one's personal information (Kelly & McKillop, 1996; Pennebaker, 1989, 1990). In conjunction with this hypothesis, self-disclosure and self-concealment are thought to operate by different physiological mechanisms. Different and unique brain regions are thought to be related to behavioural inhibition (associated with self-concealment) than to behavioural activation (associated with self-disclosure) (Gray, 1975). However, this argument remains to be empirically tested. Nonetheless, behavioural inhibition is linked to skin conductance activity while

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behavioural activation is associated with cardiovascular activity (Fowles, 1980), and a reduction of blood pressure and muscle tension (Pennebaker, 1995). Thus, each behaviour is associated with a unique physiological activity.

Taken together, these ideas support the view that self-concealment and self-disclosure do not represent the extremes of a unidimensional construct but rather, reflect two distinct, although related constructs. Unfortunately, the proposed conceptual differences between the two constructs within the literature are limited in their scope. Larson and Chastain (1990) who first introduced the construct of self-concealment failed to explain how it reflected a unique phenomenon that was not merely the opposite behavior of self-disclosure. Rather, the authors used empirical evidence to justify their claim that self-concealment and self-disclosure were conceptually different. Subsequent researchers have presented as fact that the two constructs are conceptually distinct, again without justifying this claim (Cepeda-Benito & Short, 1998; Kelly & McKillop; 1996; Pennebaker, 1989). As such, the argument attesting to conceptual differences between self-concealment and self-disclosure is inconclusive. Further work is needed to develop a fuller understanding of the conceptual differences between these constructs.

Self-Concealment and Distress Disclosure

Another concept that recently has been linked to self-concealment is distress disclosure. Distress disclosure reflects a person's tendency to conceal or disclose psychological distress across time (Kahn et al., 2001; Kahn & Hessling, 2001). This construct is thought to represent an advancement in the self-concealment literature since it integrates self-concealment and self-disclosure into a single unidimensional construct. Kahn and Hessling (2001) developed the Distress Disclosure Index (DDI) to assess this

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construct. Both exploratory and confirmatory factor analyses of the scale support the existence of one dimension reflecting frequent concealment of distress at one extreme and frequent disclosure of distress at the other extreme. However, we submit that the construct of distress disclosure is conceptually and empirically distinct from the construct of self-concealment and, as such, both constructs might have unique associations with psychological distress and psychotherapy outcome. Regarding conceptual differences between the constructs, self-concealment refers to one's tendency to withhold personal information from others, one's concealment of a specific secret, and one's fear about the consequences of disclosing personal information (Larson & Chastain, 1990). Thus, self-concealment reflects the tendency to withhold distressing self-referent information. In contrast, distress disclosure only reflects the tendency to conceal or disclose psychological distress to others, which does not require disclosing information about oneself. Even Kahn and Hessling (2001) acknowledged conceptual differences between distress disclosure, or the typical behaviour of concealing versus disclosing day-to-day unpleasant feelings to others across time, and self-concealment, which reflects thoughts and feelings related to the process of concealing one or more secrets. Furthermore, it is possible for low self-concealers to not be high distress disclosures if individuals neither actively conceal nor disclose distress but rather ignore distress (Kahn & Hessling, 2001). Similarly, high distress disclosures can be high self-concealers if such individuals openly discuss their distressing feelings but conceal personally distressing information in attempt to manage their self-presentations. These conceptual differences support a distinction between self-concealment and distress disclosure.

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In addition, self-concealment and self-disclosure have been empirically distinguished from each other based on factor analyses of measures assessing their respective constructs. Kahn and Hessling's (2001) factor analysis of the DDI and SCS generated a two-factor solution, with one factor containing all items from the DDI and the other factor containing all items from the SCS. Additional support for the discriminant validity between self-concealment and distress disclosure stems from Kahn's (2001) study that found a negative association between the SCS and social desirability but did not find a link between the DDI and social desirability. Consequently, self-concealment and distress disclosure appear to reflect distinct constructs that may have unique associations with psychological distress and therapy outcome. To date, however, only distress disclosure has been examined in relation to therapy outcome. Kahn and colleagues (2001) found that client self-reports of intake distress disclosure did not predict perceived intake stress or symptomatology but intake distress disclosure predicted reduction in stress and symptomatology over the course of counseling. Although these findings provide new directions in the self-concealment literature, given that self-concealment and distress disclosure are unique constructs, it follows that self-concealment may have unique associations with therapy outcome. However, research has not specifically examined whether self-concealment is associated with psychotherapy outcome.

The aim of the present study was to add to the self-concealment literature by investigating specific associations between self-concealment and therapy outcome in order to develop a more comprehensive understanding of the relationship between self-concealment, psychological distress, and successful therapy outcome. We made

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methodological refinements to Kahn et al.'s (2001) study and investigated associations between intake self-concealment and reduction in distress using a larger sample, more specific measures of depression and anxiety, and a longer length of treatment.

Furthermore, the present study examined new questions of study that have not yet been explored within the self-concealment literature. Specifically, we investigated whether self-concealment changed from therapy intake to termination and, if so, whether self-concealment change was linked to change in distress from pre- to post-therapy. We also investigated whether associations between self-concealment and reduction in distress were clinically meaningful and made a difference in clients' quality of life. This investigation therefore represented an advancement of the self-concealment literature.

Theoretical Conceptualizations of Self-Concealment

Throughout the literature, self-concealment generally has been conceptualized as a unique and distinct phenomenon that reflects both a personality variable and an interpersonal process. Although many researchers claim that self-concealment is a stable characteristic, it has been argued that situational variables can influence one's tendency to withhold personally distressing information from others, thereby attesting to a state-like property.

Self-concealment as a personality variable. Since self-concealment by definition refers to a general tendency to withhold personal information from others (Larson & Chastain, 1990), this construct often is viewed as an individual difference variable. Indeed, research and clinical practice both indicate that some individuals tend to conceal more than do others across situations. Furthermore, the degree to which individuals

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inhibit or reveal personal information tends to remain stable across time and situations (Pennebaker, 1989).

Self-concealment also has been linked to several individual difference variables. Kahn and Hessling (2001) found that the SCS was positively related to the Neuroticism subscale and negatively related to the Extraversion subscale of the Five-Factor Inventory (FFI; Costa & McCrae, 1992). This finding suggests that self-concealing behaviour is linked to more suspicious, apprehensive, and introverted personalities. Cramer and Lake (1998) found that higher Need for Solitude scores on the Preference for Solitude Scale (Burger, 1995) were associated with higher SCS scores (Larson & Chastain, 1990). Lastly, Ichiyama and colleagues (1993) found that shyness was the strongest predictor of self-concealment among undergraduate females but did not predict self-concealment among undergraduate males.

These findings lend support for the hypothesis that self-concealment reflects a general personality characteristic that is characterized by a predisposition to withdraw from others across most situations. This tendency, however, might be more prominent in females than in males. Future studies should clarify these ideas.

Self-concealment as a state. Conversely, it has been argued that the degree to which individuals conceal personal and distressing information is dependent on the situational context and varies with the content of the information and with the social setting. Indeed, socially taboo topics are more likely to be concealed than personally distressing information that is not linked to certain stigmas (Vrij, Nunkoosing, Paterson, Oosterwegel, & Soukara, 2002). Furthermore, studies have found that individuals are more likely to conceal personal information if they anticipate a negative reaction from

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others (Affifi & Guerrero, 2000). To date, however, research has not clearly elucidated the state vs. trait aspects of the construct of self-concealment. In addition, although the SCS was designed to assess self-concealment as a trait (Larson & Chastain, 1990), research has not investigated whether SCS scores remain stable or change over time and across different contexts. Consequently, the present study examined whether clients' tendencies to conceal personal and distressing information remained stable or changed from pre- to post-therapy.

Self-concealment and gender differences. Research also has investigated whether gender differences are associated with self-concealment behaviour. Larson and Chastain's (1990) original study did not find gender differences on the SCS. Unfortunately, the small percentage of males (9.5%) in the sample limits the generalizability of this finding. Subsequent studies have produced inconsistent findings. Although the majority of studies have not found a relationship between gender and SCS scores (Ichiyama et al., 1993; Lopez, 2001; Kelly & Achter, 1995; Ritz & Dahme, 1996), other studies have found a greater propensity for self-concealment among males (Cramer & Barry, 1999; Kahn, 2002). The current study attempted to clarify these inconsistent findings by examining whether self-concealment was related to gender.

Self-concealment as an interpersonal process. Concealing personal information additionally is viewed as an interpersonal process since the information is being withheld from at least one significant other. It has been argued that engaging in self-concealing behaviour often is propelled by interpersonal motives and has consequences that affect one's social world. For example, Larson and Chastain (1990) claim that individuals engage in self-concealment when they believe that revealing their personal information

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could lead to negative evaluations from others. In addition, self-concealment is thought to bidirectionally influence interpersonal processes by preserving relationships, exerting control over social situations, avoiding being hurt or hurting others, and maintaining a sense of privacy (Ichiyama et al., 1993; Larson, 1993).

Conceptual Frameworks Regarding the Purpose of Self-Concealment

Several propositions have attempted to explain why individuals might conceal information. Propositions pertaining to self-presentation motives, autonomy preservation, and strategic social interaction processes each have been discussed within the literature.

Self-presentation model. The self-presentational model claims that the manner in which individuals present themselves to others influences how they come to see themselves via subsequent real or imagined feedback from others (Kelly, McKillop, & Neimeyer, 1991; Schlenker & Weigold, 1992). Consequently, individuals attempt to engage in socially desirable responding (Paulhus, 2002) or behave in ways that present a desired image both to an external and an internal audience (Schlenker & Weigold, 1992). These behaviours represent forms of impression management that are attempts at self-enhancement (Paulhus, 2002) and at constructing "desirable identity images" (Schlenker, 1986, p. 25) in order to maintain one's self-esteem and validate one's self-image.

Of relevance to self-concealment, the self-presentational model asserts that impression management involves both presenting positive self-images and dissociating from undesirable identities (Schlenker, 1986). Self-concealment is thought to represent a strategic and conscious action aimed at achieving this latter goal by withholding personal information of a negative valence. In addition, the goal to dissociate from undesirable images is believed to be more motivational than the desire to be linked to positive images

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(Leary & Kowalski, 1990). Thus, self-concealment is seen as a highly motivational and common behaviour aimed at managing and preserving others' impressions of oneself (Jones & Pittman, 1982).

In conjunction with self-presentation theory, it also has been proposed that self-concealment may reflect a desire to present oneself in a socially desirable manner that is greater than average (Kahn, 2002). Thus, self-concealment may be linked to social desirability. Unfortunately, research examining the relationship between self-presentational motives and self-concealment has generated incongruent findings. On the one hand, studies have found an indirect link between self-presentational concerns and greater self-concealment behaviour. For example, Afifi and Guerrero (2000) found that individuals' motivations to manage others' impressions of themselves were related to a fear of social inappropriateness. Moreover, this fear predicted individuals' verbal avoidance of certain topics with others. However, other studies have found no association between self-concealment and social desirability (Lopez, 2001; Kelly, 1998; King, Emmons, & Woodley, 1992). Moreover, three studies found a negative relationship between the two constructs (Kahn, 2002; Kahn & Hessling, 2001; Ritz & Dahme, 1996). Further studies are needed to clarify this relationship.

Identity and autonomy preservation. Self-concealment also is viewed as a form of avoidance behaviour that allows individuals to develop a sense of self independent of others (Bok, 1982). Since self-concealment involves a boundary regulation process (Derlega & Chaikin, 1977), it leads to the development of a sense of autonomy (Afifi & Guerrero, 2000). Thus, self-concealment has been conceptualized as a developmental

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task that contributes to the formation of proper ego boundaries (Hoyt, 1978; Kelly & McKillop, 1996) and a sense of self-identity (Margolis, 1966; Szajnberg, 1988).

In addition, concealment of personal information is thought to protect one's identity by guarding one's solitude, privacy, and vulnerable feelings and beliefs from undesirable audiences (Bok, 1982). Indeed, research findings indicate that fears regarding loss of identity are related to concealment of personal information (Hatfield, Traupmann, & Sprecher, 1984). Thus, self-concealment can be viewed as an aspect of healthy mental development in which individuals gain a sense of private individuality (Szajnberg, 1988).

Interpersonal motives. Engaging in self-concealing behaviour also is hypothesized to be motivated by social concerns. Afifi and Guerrero (2000) propose that hiding personal information from others is used strategically to enhance relational progress and/or reduce uncertainty in social interactions. When people are uncertain about the relational impact of self-disclosure, they are more likely to conceal personal information and sacrifice intimacy in order to protect the relationship. Consequently, concealing personal information may reflect attempts to maintain and preserve significant interpersonal relationships (Rawlins, 1992).

Alternatively, withholding personal information from others is thought to be motivated by concerns about the possible negative social consequences of disclosure (Larson & Chastain, 1990; Stiles, 1987), such as being discounted or being met with humiliation, rejection, or punishment from others (Bok, 1982; Harris, Dersch, & Mittal, 1999; Ichiyama et al., 1993; Kelly & McKillop, 1996; Lehman, Ellard, & Wortman, 1986). In addition, it has been argued that individuals are motivated to conceal information if they anticipate that their target listener will become upset (Pennebaker,

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1993), will give unhelpful or insensitive feedback (Lehman, Wortman, & Williams, 1987; Pennebaker, 1989; Thoits, 1982), or will abandon them (Kelly & McKillop, 1996).

Empirical evidence supports the proposition that individuals are motivated to conceal personal information if they fear a negative reaction from others. Afifi and Guerrero (2000) found that self-protection was the strongest predictor of self-concealment. Similarly, Vrij and colleagues (2002) found that the most common reason for concealing information was to avoid disapproval from others. In addition, Afifi and Guerrero (2000) found that greater avoidance of discussing personal topics was related to the degree of unresponsiveness of the target listeners.

With respect to self-concealment and the therapeutic process, Kelly (1998) examined motivations for keeping secrets among 42 outpatients. She found that 40.5 percent of the clients reported keeping a relevant secret from their therapist. Reasons for keeping a secret included fear of expressing one's feelings, feelings of embarrassment, concern that one's secret would indicate to the therapist how little progress had been made, lack of time in the session, refusal to discuss one's secret with anyone, lack of motivation to address the secret, and loyalty to another.

Taken together, these findings support the hypothesis that interpersonal concerns, such as the desire to maintain relationships and reduce negative evaluations from others, motivate self-concealing behaviour.

Shame-based motives. Independent of potential social consequences of revealing personal information, there also appears to exist an internalized sense of shame associated with revealing one's personal difficulties and distress. Disclosing personal information that is of negative valence runs counter to a Western culture that views fears,

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doubts, and distress as weaknesses (Lewis, 1992). In support of this hypothesis, Hill, Thompson, Cogar, and Denman (1993) found that among a sample of 42 outpatients, the most frequently given reason for keeping a secret in therapy was feeling too ashamed or embarrassed to reveal the secret. Thus, shame of publicly revealing a negative experience or personal flaw may promote the tendency to withhold such information from others.

In addition, it has been argued that interactions with individuals to whom one has disclosed personally distressing or embarrassing information can serve as a continual reminder of one's negative attributes (Kelly & McKillop, 1996), thus focusing undue attention on one's weaknesses and faults. Thus, disclosure is thought to promote negative self-awareness that, in turn, contributes to low self-esteem and psychological distress (Derlega et al., 1993).

Topic of the information. Lastly, the decision to conceal negative or distressing personal information may be influenced by the content of the information. Painful and traumatic experiences, such as childhood sexual abuse (Russell, 1986), rape (Binder, 1981), family secrets (Evans, 1976), serious medical conditions (Larson & Chastain, 1990), and strong negative thoughts about others (Wilson, Dunn, Kraft, & Lisle, 1989) often have a stigma attached to them and, as such, are thought to lead greater rates of concealment (Larson, 1993). In particular, socially unacceptable or taboo topics, such as infidelity and criminal activity, are claimed to be highly concealed (Pennebaker, 1989). Vangelisti and Caughlin (1997) found that 75 percent of the secrets participants reported referred to taboo activities that were stigmatized or condemned by society and could have resulted in serious ramifications. Similarly, Vrij et al (2002) found that, among a sample of 41 undergraduates who reported having kept a specific secret from at least one

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significant person, the most commonly kept secrets pertained to infidelity or sexual issues that were rated as "serious" in terms of their social ramifications. These findings suggest that, regardless of one's general tendency to conceal personal information, situational factors may influence this behaviour.

Associations Between Self-Concealment, Physical Health, and Psychological Well-being

The proposed significance of self-concealment on both physical and psychological outcomes has been recognized for some time (Cozby, 1973). As early as 1959, Jourard highlighted negative health consequences of actively concealing significant aspects of the self, independent of the positive health consequences of disclosing personal information. The idea that psychological and physical health problems worsen for individuals who hide personally distressing information (Cramer, 1999) fits with the treatment literature that states that concealment can prolong distress and prevent therapeutic progress (Doxsee & Kivlighan, 1994; Wright, Ingraham, Chemtob, & Perez-Arce, 1985). Importantly, self-concealment has been linked to various negative aspects of individuals' biopsychosocial functioning.

Self-concealment and physical health. There appears to exist overwhelming evidence supporting the proposition that people who choose to actively keep secrets from others are likely to physically suffer as a result (Larson, 1993; Pennebaker & Beall, 1986; Pennebaker, 1995). Early studies on patient populations have shown that concealment of one's thoughts and feelings related to a current disease and/or earlier traumatic experiences was associated with higher cancer rates (Cox & McCay, 1982; Jensen, 1987, Kissen, 1966), more heart problems (Friedman, Hall, & Harris, 1985; Weinberger, Schwartz, & Davidson, 1979), higher mortality rates following a breast cancer diagnosis

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(Derogatis, Abeloff, & Melisaratos, 1979), higher blood pressure (Davis, 1970) and higher rates of physical disease in general (Blackburn, 1965). Thus, concealing one's personal thoughts and feelings is linked to both disease and mortality.

In addition, Pennebaker and colleagues' studies have repeatedly demonstrated an inhibition-disease link (Pennebaker & Chew, 1985; Pennebaker, 1989). For example, not expressing personal thoughts and feelings about traumatic events, including divorce of parents, death of family members, and sexual abuse, is associated with increased short-term physiological activity and poorer long-term health, even after controlling for social support (Pennebaker & O'Heeron, 1984). Petrie, Booth, and Pennebaker (1998) examined short-term immunological effects of concealing personal thoughts about emotional topics and found that participants who suppressed their distressing thoughts had significantly reduced lymphocyte antibodies than did participants who wrote about their distressing thoughts. These findings suggest that inhibiting the revelation of personal distress can detrimentally influence physical health outcomes (Pennebaker, 1997). Consequently, it is assumed that revealing distressing information reduces the negative health implications (Pennebaker, 1989).

However, more recently, Pennebaker (2003) has suggested that simply reducing one's tendency to conceal personally distressing thoughts and feelings may not be a critical factor in influencing physical and mental health. Rather, it is thought that language plays a central role in mediating the inhibition-disease link (Pennebaker, Mayne, & Francis, 1997). Revealing personal distress through language, either verbally or in written form, is claimed to engender changes in cognitive, emotional and linguistic processes that, in turn, contribute to positive health outcomes (Campbell & Pennebaker,

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2003). In particular, linguistically labeling a personally distressing experience forces it to be structured, which in turn is theorized to promote organization, assimilation and understanding of the complex emotional experience and memories (Harber & Pennebaker, 1992; Pennebaker & Seagal, 1999), to engender insight (Pennebaker, 1989, 1993), and to reduce the accompanying emotional arousal (Pennebaker et al., 1997). Indeed, Campbell & Pennebaker (2003) found that writing about a personally distressing topic was linked to health improvements only when participants altered their individual and social perspectives about their topic as evidenced by changes in their writing styles. Given that this area of investigation is new to the self-concealment literature, future research is needed to clarify the mechanisms linking self-concealment with health outcomes.

Self-concealment and psychological well-being. With regard to the relationship between self-concealment and psychological health, Pennebaker (1985) stated that "the act of not discussing or confiding the event with another may be more damaging than having experienced the event per se" (p. 82). Indeed, a common assumption is that self-concealment leads to negative psychological outcomes.

Larson and Chastain (1990) conducted the first study that directly investigated the link between self-concealment and both psychological and physical health status. The authors used a broad sample of 306 human service workers (e.g., nurses, social workers, clergy, physical therapists, volunteers in social service agencies), other professionals, and graduate counseling psychology students. They found that higher levels of reported self-concealment were associated with poorer physical health, and with greater depressive and anxiety symptoms. Physical health was measured by the Physical Symptom Checklist

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(Cohen & Hoberman, 1983) and psychological health was assessed by the Mood Depression Scale and Mood Anxiety Scale of the Typology of Psychic Distress (PSYDIS; Melinger, Balter, Manheimer, Cisin, & Parry, 1978). Moreover, mean, median, and quartile splits, forming high- and low-self-concealment (S-C) groups all showed that the high-SC group had significantly more bodily, depression, and anxiety symptoms than the low-SC group.

Larson and Chastain (1990) also examined whether self-concealment uniquely predicted negative physical and psychological health symptoms above and beyond other factors. They found that even after controlling for trauma incidence, trauma distress, trauma disclosure, social support and social network, and self-disclosure levels, self-concealment accounted for a significant proportion of the variance in bodily symptoms (3.6 percent), depression (7.4 percent), and anxiety (5.2 percent). This finding thereby supports the proposition that self-concealment has a unique negative impact not only on physical health but also on psychological well-being.

Subsequent studies have reported similar findings linking a greater tendency to conceal personal information with less positive affect, more negative affect, greater depression (Kelly & Achter, 1995) and anxiety symptoms (Ichiyama et al., 1993;), greater social anxiety (Gesell, 1999), poorer self-esteem (Ichiyama et al., 1993), lower satisfaction with life (Vrij et al., 2002), and greater general psychological distress (Kahn & Hessling, 2001; Pennebaker, Colder, & Sharp, 1988).

King and colleagues (1992) studied the relationship between self-concealment and both behavioural and emotional control in a sample of 118 undergraduates. They found that self-concealment was related to more obsessive-compulsive thoughts and

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behaviours and to less self-control. Self-concealment also was associated with greater ambivalence over emotional expressiveness, more emotional inhibition, higher levels of alexithymia, greater emotional rehearsal, and to less control of benign and aggressive emotions. In general, these findings suggest that self-concealment is linked to emotion regulation difficulties, thus supporting the hypothesis that self-concealment reflects a maladaptive coping strategy that results in psychological distress.

Researchers also have investigated the relationship between self-concealment and specific cognitive aspects of psychological adjustment. In particular, Pennebaker (1990) proposed that self-concealment impairs the ability to engage in effective information processing since concealing information about oneself prevents the opportunity to hear another perspective on the issue. In conjunction with this proposition, studies have found links between a greater tendency to conceal personal information, more intrusive thoughts about the secret information (Pennebaker, Hughes, & O'Heeron, 1987; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Pennebaker & O'Heeron, 1984), and greater impairment of one's self-perceptions related to the concealed information (Fishbein & Laird, 1979).

Poor self-esteem is another aspect of psychological maladjustment that has been linked to a greater tendency to conceal personal information. For example, Cramer and Lake (1998) found that higher scores on the SCS were associated with lower scores on the Rosenberg Self-Esteem Scale (1965) among a sample of 278 undergraduates. This finding supports the hypothesis that concealing personal and distressing information has negative consequences on self-esteem (Derlega et al., 1993). It should be noted, however,

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that there might exist a bi-directional influence between poor self-esteem and a greater tendency to conceal personal and distressing information.

The association between self-concealment and psychological distress recently has been studied cross-culturally. Ritz and Dahme (1996) translated the SCS into German and examined the relationship between repressor personality types and self-concealment within a European culture. Individuals classified as high repressors generally score low on measures of anxiety and high on measures of social desirability. The researchers found that the lowest scores on the German SCS were found in the repression group while higher SCS scores were linked to greater levels of anxiety. This finding offers preliminary support for the idea that the relationship between self-concealment and greater distress holds across different cultures.

In general, the above findings are consistent with and overwhelmingly support the proposition that self-concealment leads to negative psychological outcomes. Moreover, a greater tendency to withhold personal information from others has been linked to multiple aspects of poor psychological well-being, including emotional distress, cognitive dysfunction, and low self-esteem. However, the correlational findings limit our ability to draw conclusions about the role of self-concealment in causing psychological distress.

Mechanisms Linking Self-Concealment to Poor Physical and Psychological Outcomes

The mechanisms proposed to account for the associations between self-concealment and poor physical and psychological health outcomes include behavioural, cognitive, and genetic processes.

Behavioural inhibition. One proposed mechanism involves the level of physiological work involved in concealing personal information from others. Self-

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concealment is hypothesized to involve a process of active behavioural inhibition of ones' thoughts, feelings, and behaviours related to the concealed information that, in turn, is responsible for leading to physiological and psychological stress (Pennebaker & O'Heeron, 1984). Pennebaker and colleagues (1985, 1989) have highlighted the proposed mechanism by which such inhibition leads to negative health outcomes. In order not to betray their personal information, individuals must work to inhibit their behaviours, thoughts, feelings, and language (Bok, 1982; Pennebaker & Beall, 1986). In addition, they may actively attempt not to think about aspects of the concealed information because of its distressing and unresolved nature. This short-term inhibition is thought to result in increased physiological activity and autonomic arousal that is manifested by increases in skin conductance level (Fowles, 1980; Pennebaker et al., 1987). Moreover, it is argued that continual inhibition of thoughts, behaviours, or feelings becomes a cumulative stressor that wears and tears the body (Finkenauer, 1999). Indeed, studies have found that long-term behavioural inhibition is linked to chronic autonomic and cortical arousal (Pennebaker, 1989). This arousal results in increased endocrine activity that compromises the immune system, thereby increasing the susceptibility to disease and other negative health outcomes. Thus, continual inhibitory behaviour over time is hypothesized to place cumulative stress on the body that subsequently increases the long-term probability of stress-related disease or negative physical and psychological symptoms (Pennebaker, 1990).

Empirical evidence supports this hypothesis. Pennebaker et al. (1987) found that inhibiting one's desire to confide about traumatic events was associated with heightened electrodermal responses, decreased immunocompetence levels, and increased

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symptomatology and health center visits. These findings thereby support the proposition that self-concealment leads to ill health as a result of the psychological strain involved in actively inhibiting the disclosure of the information (Pennebaker, 1989).

Hyperaccessibility and obsessional thinking of suppressed information. Another proposed mechanism by which self-concealment leads to psychological distress involves the cognitive processes associated with concealing personal information from others. It has been argued that concealing personal information can create a paradoxical effect whereby suppression of personal information over time makes the information more accessible to awareness, thus resulting in hyperaccessibility of the suppressed information (Lane & Wegner, 1995; Smart & Wegner, 1999; Wegner & Erber, 1992). Furthermore, self-concealment is thought to additionally lead to rumination and obsessional thinking of the concealed information (King et al., 1992). Specifically, the preoccupation model of secrecy (Smart & Wegner, 1999; Wegner, 1994; Wegner & Lane, 1995) asserts that self-concealment sets into motion certain cognitive processes that can create hyperaccessibility of, and obsessive preoccupation with, the concealed information. The proposed cognitive processes proceed through the following steps: a) concealment initially causes thought suppression of the concealed information, b) thought suppression then causes intrusive thoughts of this information, c) intrusive thoughts subsequently result in renewed efforts at thought suppression that, d) yield even higher levels of the accessibility of the concealed information, thereby adding more fuel for the automatic intrusions (Smart & Wegner, 1999; Wegner & Lane, 1995). Such obsessional thinking is thought to result in psychological distress. For example, unwanted negative thoughts about the concealed information are claimed to create doubts about one's self-

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worth, raise concerns about the future, and lower one's self-confidence about one's abilities to overcome problems and to make sense of difficult life experiences (Derlega et al., 1993). Thus, continual concealment of personal information is claimed to lead to both hyperaccessibility and intrusiveness of that information that, in turn, impairs individuals' psychological well-being and level of functioning.

Empirical evidence supports the idea that attempts at suppressing information make the information hyperaccessible and can result in obsessional thinking. Studies have found that suppression of information is associated with increased intrusiveness of that information (Lane & Wegner, 1995; Wegner & Gold, 1995). In particular, Smart and Wegner (1999) found that conscious withholding of stigmatizing personal information was linked to more intrusive thoughts and projection of the information. To date, however, studies have not examined whether intrusive thoughts of concealed information are associated with greater psychological distress.

Deleterious changes in information processing. Researchers also have proposed that self-concealment leads to psychological distress by causing deleterious changes in information processing. For example, Pennebaker (1989) suggested that when individuals conceal, they inhibit thoughts and feelings about the personally distressing information, which prevents them from processing the experience fully and translating it into a language that aids in the understanding and assimilation of the experience. Consequently, the concealed information is more likely to surface in the form of symptomatology.

Other theorists suggest that, by actively concealing personally distressing information, individuals are not presented with the opportunity to receive feedback from others and engage in reality testing (Bok, 1982; Derlega et al., 1993). Specifically,

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individuals who withhold personal information do not receive any social comparison data from others. Consequently, they are more likely to become mired in stereotyped and unexamined ways of thinking (Bok, 1982; Fishbein & Laird, 1979), and erroneously conclude that the concealed information represents something negative about them (Derlega et al., 1993). If this erroneous self-perception process (Bem, 1967) persists, it can result in lowered self-worth (Derlega et al., 1993).

Although both views focus on different mechanisms, both assert that concealing personal information results in inadequate information processing that, in turn, generates psychological distress. Research, however, has yet to investigate these propositions.

Coping style. Several researchers have argued that self-concealment reflects a maladaptive coping strategy that contributes to psychological distress through two processes. First, self-concealment is viewed as a form of self-control and defensive/ avoidant coping (Larson & Chastain, 1990; Ritz & Dahme, 1996) that prevents individuals from confronting and assimilating their distressing experiences (Pennebaker, 1989). Second, engagement with this coping style restricts the range of and/or minimizes the benefits of other more active, problem-solving strategies (Fostner, 1997; Krause & Long, 1993). Empirical evidence relating use of an avoidant coping style to greater psychological distress (Folkman & Lazarus, 1986) indirectly supports but does not prove this hypothesis.

Lack of integrated identity. Self-concealment also is hypothesized to lead to a poorly integrated identity that engenders psychological distress. In particular, Hill, Gelso, and Mohr (2000) argue that individuals who generally conceal unfavorable aspects of themselves from others suffer from an imposter syndrome whereby they split their ideal

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images (that they present to others) from their real selves (that they conceal from others). It is thought that such individuals feel inauthentic and believe that they have no true selves, thereby creating anxiety, distress, and low self-acceptance (Hill et al., 2000).

Predispositional tendencies. Lastly, Kelly (2002) proposes that it is not the withholding of secrets per se that contributes to psychological distress, but rather, high self-concealers may be predisposed to inhibit social expression and by virtue of this predisposition, are more vulnerable to developing problems associated with self-concealment. Thus, the tendency to be inhibited generates both self-concealment and psychological distress. Indirect support for this theory stems from Kagan's (1994) study linking inhibited temperaments with physical and psychological difficulties including inhibited social expression, fears and phobias, and large heart accelerations to stress. Furthermore, when Kahn and Kelly (1998) divided the SCS (Larson & Chastain, 1990) into three separate factors, Possession of a Distressing Secret, Apprehension about Disclosure, and Self-Concealment Tendency, the authors found that only Apprehension about Disclosure uniquely predicted psychological symptomatology. Based on these findings, the authors proposed that the link between self-concealment and psychological distress could be explained by individuals' fears and concerns of consequences of revealing negative information rather than by the simple withholding of a secret.

In summary, mechanisms involving behavioural inhibition, deleterious cognitive processes, a maladaptive coping style, a poorly integrated sense of self, and predispositional inhibitory tendencies are proposed to account for the link between self-concealment and physical and psychological problems.

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Associations Between Self-Concealment and Interpersonal Factors

Although the majority of self-concealment research has investigated the tendency to conceal personal information in relation to physical and psychological symptoms, more recent studies are beginning to investigate associations between self-concealment and various interpersonal factors.

Self-concealment and relationship difficulties. Research investigating interpersonal correlates of self-concealment has found that, in general, withholding personal information from others is linked to greater relationship difficulties. A greater tendency to keep intimate information secret has been associated with more interpersonal conflict (Straits-Troster, 1993), greater withdrawal and isolation from others (Spiegel, 1992), and more loneliness and social anxiety (Cramer & Lake, 1998). Research also has shown a positive relationship between the reported number of secrets within a family, level of dissatisfaction within the family (Vangelisti, 1994), and greater family dysfunction (Evans, 1976; Swanson & Biaggio, 1985). Furthermore, a greater tendency to conceal personal information was associated with higher levels of attachment anxiety and attachment avoidance among a sample of 247 undergraduate adult students (Lopez, 2001). In general, these findings are consistent with the hypothesis that a greater tendency to conceal personal information from others has negative repercussions for interpersonal functioning (Finkenauer, 1999).

Self-concealment and social support. Another proposed social consequence of self-concealment is the unavailability and/or inadequate use of social support networks. Studies have shown that a greater tendency for self-concealment is associated with a weaker social support network (Cepeda-Benito & Short, 1998; Kelly & Achter, 1995;

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Larson & Chastain, 1990; Rickwood & Braithwaite, 1994). Similarly, Kahn and Hessling (2001) found that a greater tendency to conceal personal information was linked to less perceived social support among a sample of 278 undergraduates. Cramer's (1999) hypothesized path model relating self-concealment to various factors also revealed that individuals who concealed personally distressing information were more likely to have impaired social support networks.

Several hypotheses have been proposed to account for these findings. One possibility is that, by avoiding discussing one's problems, high self-concealers may limit the adequacy, range, and frequency of both emotional and tangible support (Larson & Chastain, 1990), thereby leading to poorer quality of social support (Finkenauer, 1999). Alternatively, Cramer (1999) proposes that high self-concealers may have little or no social support because they are more likely to refuse the help of others.

Importantly, since inadequate social support systems are associated with less protection from stress and more physical problems (Broadhead et al., 1983; Kessler, Price, & Wortman, 1985; Levy, 1983), self-concealment is thought to contribute indirectly to poorer health via a lowered social support network. This hypothesis remains to be tested.

Self-Concealment and Therapy

In general, the literature on self-concealment indicates that the tendency to hide personally distressing information is linked to various physical and psychological difficulties. It follows that self-concealment may therefore be a critical client factor that affects therapeutic progress and outcome.

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The Importance of Studying the Relationship between Self-Concealment and Therapy Outcome

Research investigating the role of self-concealment in therapy has important implications for the treatment literature. First, understanding self-concealment within a therapeutic setting is highly relevant for the therapeutic process since psychotherapy is based on clients revealing their most intimate, distressing, and disturbing thoughts, feelings, and behaviours (Cepeda-Benito & Short, 1998). Thus, knowledge of the role self-concealment plays in the therapeutic process has the potential to assist in selecting clients most likely to benefit from psychotherapy. Second, psychotherapists increasingly are called upon to improve the efficiency and effectiveness of the services they offer. Knowledge of the relationship between self-concealment and change in therapy can provide insights for identifying therapeutic approaches or interventions most likely to be effective with high and low self-concealers (Wegner & Lane, 1995), thereby providing more effective treatment.

To date, however, investigation of the relationship between clients' general tendency to conceal personal information and both therapy process and outcome has been sparse and has generated inconclusive findings.

Do Clients Self-Conceal in Therapy?

There are conflicting views and limited findings regarding the extent to which clients conceal information from their therapists over the course of therapy. On the one hand, Kelly (2000) contends that many clients conceal personal and relevant information from their therapists, primarily for self-presentational reasons. This position is supported by empirical evidence. Hill et al. (1993) studied secret-keeping among clients involved in

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long-term individual therapy. Secrets were defined as major life experiences, facts, or feelings that clients did not share with their therapists. The researchers found that 46 percent of clients reported keeping such secrets from their therapist, the content of which pertained to themes of sex, failure, and mental health issues. Similarly, Kelly (1998) found that 40 percent of clients reported keeping at least one secret from their therapist.

On the other hand, Hill et al. (2000) believe that clients actually hide very little in therapy and cite indirect supporting evidence by Hill, Thompson, and Corbett (1992) who found that only 14 percent of clients' reactions were concealed from their therapist.

In summary, although there is limited and inconsistent research regarding the degree to which clients conceal from their therapists, the research suggests that self-concealment does occur in therapy. The prevalence of self-concealing behaviour in therapy suggests that self-concealment serves or is perceived to serve an important function for clients.

Why do Clients Conceal Personal Information in Therapy?

Since most forms of psychotherapy are premised on the client's ability and willingness to disclose personal thoughts, feelings, and experiences, therapists have a vested interest in understanding why clients choose to conceal personal information in therapy. Researchers have proposed several reasons that might explain this phenomenon.

Self-presentational concerns. A common belief is that clients conceal personally distressing and embarrassing information from their therapist due to self-presentational concerns (Kelly, 2000, 2002). Researchers claim that this motivation to present oneself favorably is greater in psychotherapy where the situation is viewed as evaluative and the therapist is perceived as an expert (Kelly et al., 1991; Leary & Kowalsky, 1990;

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Schlenker & Leary, 1982). Given that most clients want their therapists to like them and to think well of them (Hill et al., 2000), clients often monitor what they reveal and how they present themselves in attempts to avoid disapproval or gain approval from their therapist (Schwartz, Friedlander, & Tedeschi, 1986). In particular, Kelly (2002) asserts that if clients reveal to their therapist negative things they've thought, said, or done, they are at risk for constructing unwanted self-images. In contrast, if clients engage in self-presentation and create favorable views of themselves by concealing their undesirable aspects, they may be better able to see themselves in a favorable light and, thus, are able to construct desirable identity images before their important audience (Kelly et al., 1996). Consequently, withholding personally distressing information is thought to enable clients to experience a better therapeutic outcome (Kelly, 1998).

This claim is premised on the idea that therapists offer feedback to their clients based on clients' self-presentations (Kelly, 2002). If clients withhold secrets and offer favorable self-presentations that are believable and consistent with how they wish to be seen, therapists' feedback of these favorable self-presentations is thought to lead to alterations in clients' self-beliefs. Over time, this shifting of self-beliefs, followed by similar client self-presentations and therapist feedback leads to changes in clients' self-concepts through an internalization process (Kelly, 2000). It is through this desirable self-concept change that clients may benefit from therapy since positive views of oneself have been linked to psychological well-being, and the ability to care about others and engage in productive work (Taylor & Armour, 1996; Taylor & Brown, 1994).

Alternatively, clients' withholding of information in therapy may represent a transference response based on their past experiences with others (Hill et al., 2000).

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Clients who have been rejected by significant others in their past may fear that the therapist will act in a similar manner and thus conceal information until they can test out the therapist.

There have been limited and inconsistent findings regarding the relationship between self-presentational concerns and self-concealment in therapy. For example, Kelly and colleagues (1996) examined self-presentation styles on an intake questionnaire among a sample of 108 undergraduates who were not seeking counseling and 92 outpatients who were seeking counseling at a local hospital. Participants were randomly assigned to either a "known" condition in which a counselor reviewed and discussed with the participants their responses or to an "anonymous" condition in which participants' responses were unknown to the counselor. The authors found that non-counseling participants in the known condition reported fewer psychological symptoms and higher levels of self-esteem than did those in the anonymous condition. This finding supports the proposition that individuals are motivated to present themselves favorably in an evaluative setting and thus will conceal their symptoms with a therapist (Kelly et al., 1996). In contrast, however, outpatient participants in the known condition did not present themselves as experiencing worse symptoms and self-esteem than did outpatients in the anonymous condition (Kelly et al., 1996). This latter finding suggests that clients who choose to seek therapy present themselves in a way that is related to how they actually are functioning.

Future research is required to clarify the inconsistent results regarding clients' levels of self-concealment during therapy, including possible changes during the course of therapy (Kelly et al., 1996). In addition, research has yet to examine the relationship

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between client self-concealment and therapeutic outcome. The present study attempted to address these questions in order to clarify the role of self-concealment in the therapeutic process.

Power imbalance and need for privacy. Clients also may conceal personal information in order to regain some control over what they feel is a power imbalance in the therapeutic relationship (Friedlander & Schwartz, 1985). Therapists often disclose very little while clients are expected to reveal distressing and often intimate information, making them feel vulnerable and powerless (Hill, Helms, Tichenor, Spiegel, O'Grady, & Perry, 1988; Knox, Hess, Petersen, & Hill, 1997). It is thought that the level of disclosure reciprocity between the client and therapist influences the breadth and depth of personal information that clients reveal to their therapist (Chesner & Baumeister, 1985; Dindia, 2000). Consequently, clients who perceive that their therapist offers few disclosures might withhold information in order to experience a sense of control over the therapeutic process and what happens in therapy. Along a similar vein, clients may conceal information to maintain a sense of privacy and independence from the therapist (Prochaska, Norcross, & DiClemente, 1994).

Inappropriateness of the personal information. Lastly, clients are thought to conceal certain information such as spiritual, sexual, or financial issues because they think it is inappropriate to discuss in therapy (Hill et al., 2000). Indeed, studies have found that clients' secrets in individual therapy encompassed themes of sex, failure, relationship difficulties, health problems, chemical dependency, and delinquency (Hill et al., 1993; Kelly, 1998), while clients' secrets in group therapy pertained to concerns of personal inadequacy, being unable to care for others, and sexual secrets (Yalom, 1985).

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Importantly, these motivations for concealing personal and distressing information in therapy reflect both healthy psychological functioning and maladaptive psychological processes. On the one hand, it can be argued that some degree of self-concealment reflects healthy ego functioning among clients who are aware of what they can handle in terms of disclosure and choose to conceal if they are not ready to work on a particular problem (Hill et al., 2000). Clients who conceal some information from therapists also are thought to have an ability to evaluate situations, maintain healthy interpersonal boundaries, and regulate their behaviours and affects. Furthermore, according to the self-presentational model, clients who withhold relevant secrets are able to see themselves in desirable ways, leading to the formation of a desirable self-construct (Kelly, 2000, 2002).

On the other hand, it is thought that clients who conceal to a large extent often conceal out of shame, embarrassment, or mistrust. Such clients also are believed to have difficulties developing a warm and open therapeutic relationship, to feel less comfortable in therapy, and to be less willing to disclose those issues that need to be addressed in order for healing and further development to occur (Cramer, 1999; Cepeda-Benito & Short; 1998). As such, high self-concealers may not experience to the fullest the potential benefits of therapy.

Does Self-Concealment Change Over the Course of Therapy?

Some researchers contend that one's general tendency to conceal will not change dramatically over the course of therapy. Indirect support for this idea stems from personality theory, which asserts that self-concealment reflects a general predisposition to withhold personally relevant information across time and situations. Moreover, both

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anecdotal clinical reports and research support the idea that some individuals tend to conceal more than do others and that this behaviour remains relatively stable (Pennebaker, 1989).

However, it also is possible that a client's tendency to conceal personal information changes over the course of therapy. Researchers claim that despite one's general self-concealment behaviour, different motivational and situational factors can influence clients' willingness to disclose information to their therapists. For example, client factors, such as their desire to participate in therapy, to please their therapist, or to experience psychological relief might motivate them to reduce their general self-concealment tendencies. In addition, psychotherapy literature proposes that factors unique to therapy, such as therapist qualities and techniques, and the therapeutic relationship, reduce clients' self-concealment tendencies (Ackerman & Hilsenroth, 2003; Chambless & Hollon, 1998; Coates & Winston, 1987; Paulson et al., 1999; Rogers, 1961; Trant, 1990). Research indeed has shown that therapist empathy, warmth, and affirmation (Ackerman & Hilsenroth, 2003, Kennedy et al., 1990), therapist disclosure (Jourard, 1971; Saketopoulou, 1999), and therapeutic techniques of probing, offering support, and providing interpretations (Ackerman & Hilsenroth, 2003; MacKenzie, 1987; Vondracek, 1969) are linked to a reduction in clients' tendencies to withhold personal information. Furthermore, Hill et al. (2000) propose a progression of self-concealment reduction across the course of therapy as the therapeutic relationship develops. Clients are thought to test their relationship with their therapists by disclosing small and less significant or relevant pieces of information. If therapists are empathetic, attuned, and accepting, clients are proposed to begin revealing more threatening, emotional, and personal disclosures

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(Hill et al., 2000), thus reducing their level of self-concealment. This idea is indirectly supported by several studies that have found a link between a positive and collaborative therapeutic relationship and greater client revelations in therapy (Coates & Winston, 1987; Paulson et al., 1999). It also is thought that the level of disclosure reciprocity between the client and therapist influences the breadth and depth of personal information that clients reveal to their therapist (Chesner & Baumeister, 1985; Dindia, 2000). To date, however, research has not investigated whether this tendency to reduce self-concealment generalizes beyond the therapeutic relationship. The present study investigated whether clients' general self-concealment tendencies changed from the initial therapy session to termination.

Self-Concealment and Therapy Outcome: Theoretical Perspectives

The relevance of clients concealing personal information has been noted across various therapeutic modalities. Psychodynamic therapies believe that concealing personal information results in the development of neurotic symptoms unless the secrets are confronted by the analyst (Freud, 1914). In addition, any secret that clients consciously keep from their therapist is thought to represent an overt form of resistance to therapy that must be overcome in order to experience conflict resolution (Ekstein, 1974). Consequently, psychodynamic therapy uses the technique of free association to promote the revelation of secrets that, in turn, assists clients to acknowledge and regulate their desires, fears, and thereby reduce their symptoms and distress.

According to cognitive-behavioural therapies, the personal information that is concealed by clients often reflects distorted and dysfunctional self-referent thoughts about being inadequate, unlovable, or flawed in some fundamental way (Ichiyama et al.,

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1993; Rush & Beck, 1978). By refraining from revealing and thereby testing the utility or reality of one's dysfunctional beliefs, self-concealing behaviour is seen as contributing to clients' distressing affective symptoms and/or maladaptive behaviours. Cognitive therapy techniques attempt to have the client reveal and then challenge their beliefs about their secret information. In addition, several behavioural therapy techniques, such as relaxation training, deep breathing, and stress-management, are used to alter stress-related symptoms resulting from the continual behavioral inhibition and physiological work of self-concealment (Ichiyama et al., 1993).

Humanistic therapies primarily focus on self-disclosure in therapy. Humanists generally believe that, "Until clients can expose their innermost 'secrets' and make themselves vulnerable to the counselor, the real work of counseling cannot begin" (Fong & Cox, 1983, p. 163).

In summary, self-concealment is viewed across therapeutic modalities as an important client factor that can influence the progress and outcome of therapy.

Theoretical mechanisms linking self-concealment to poorer treatment outcome. In general, it is assumed that a greater tendency to conceal personal information results in poorer treatment outcome, demonstrated by a lack of reduction in symptoms and little or no improvement in daily functioning. However, proposed mechanisms explaining this process have been sparse. Yalom (1985) suggests that, because it requires so much energy on the part of the client to keep information hidden from the therapist, secrecy within therapy sessions may cause the therapeutic progress to come to a halt, consequently resulting in poorer therapeutic outcome. Future research evidently is required to further our understanding of this relationship.

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Self-Concealment and Therapy: Empirical Findings

The relationship between self-concealment and therapeutic factors has been empirically investigated in terms of clients' attitudes toward, and willingness to seek therapy, clients' symptoms during the course of therapy, and therapy outcome.

Self-concealment, attitudes toward counseling, and willingness to seek therapy. Since self-concealment is viewed as a predisposition to hide or refuse to share personally distressing information with others (Larson & Chastain, 1990), one would expect high self-concealers to be less willing to seek professional help. Such individuals may tend to be more skeptical of the therapeutic process, harbor more negative attitudes, and be less likely to seek out therapeutic services (Cramer, 1999).

Research investigating the relationships between self-concealment, attitudes toward therapy, and willingness of seeking therapy, however, has generated inconsistent findings. Several studies have shown a link between self-concealment, negative attitudes toward therapy, and a reduced willingness to seek therapy. Other studies, however, have not found any associations between these variables. Still other studies have found an association between self-concealment and a greater willingness to seek therapy.

For example, Cepeda-Benito and Short (1998) studied a sample of 732 undergraduate students and found that high self-concealers (represented by the top quartile) were over three times more likely than low self-concealers (bottom quartile) to have reported that there had been a time in their lives when they had needed but had not sought therapy. The authors concluded from this finding that high self-concealment was doubly harmful since it was related to psychological distress and appeared to deter individuals from seeking help.

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However, Cepeda-Benito and Short (1998) found that participants' scores the SCS did not predict their perceived future likelihood of seeking professional help for psychological, academic, or drug use concerns. Similarly, Rickwood and Braithwaite (1994) found no significant relationship between self-concealment and willingness to seek therapy.

Furthermore, Kelly and Achter (1995) summarized two studies showing that high self-concealment predicted a greater likelihood of seeking therapy despite having less favourable attitudes toward counseling. In the first study, high self-concealers were 50 percent more likely to seek therapy than were low self-concealers, while in the second study 57 percent of high self-concealers reported having seen a counselor compared with only 37 percent of low self-concealers. The authors speculated that although high self-concealers were more fearful of revealing personal information in therapy, they were more likely to seek assistance because they lacked access to help from other social support networks.

Cramer (1999) attempted to clarify the above inconsistent findings by hypothesizing a theoretically derived path model linking the likelihood of seeking treatment to self-concealment, social support, distress, and attitudes toward counseling. Using data from Cepeda-Benito and Short's (1998) study and Kelly and Achter's (1995) study, Cramer (1999) found that individuals who concealed personal information from others were more likely to be distressed, experience negative attitudes toward counseling, and have impaired social support networks. The direct path of self-concealment to help seeking was significant in the Kelly and Achter (1995) sample but not the Cepeda-Benito and Short (1998) sample. Cramer (1999) concluded from these findings that on one level,

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high levels of self-concealment leads to greater distress, which itself is associated with a greater likelihood of seeking therapy. On another weaker level, self-concealment leads to negative attitudes toward counseling, which inhibits seeking help. Consequently, self-concealers appear to be caught up in an approach-avoidance conflict (Kushner & Sher, 1989) regarding their decision to seek therapy.

Self-concealment during the course of outpatient therapy. Since both theory and research suggest that self-concealment negatively influences attitudes toward, and willingness to seek therapy, it follows that a predisposition to keep secrets from others will affect the therapeutic process. Specifically, if clients' attitudes toward therapy are negative, they might not receive the maximum benefits from therapy (Kelly & Achter, 1995). Most of the research investigating the role of self-concealment in therapy has examined the relationship between self-concealment and therapeutic progress during the course of therapy.

In general, most studies support the proposition that a greater tendency to conceal personal information leads to poorer therapeutic progress during the course of therapy. Doxsee and Kivlighan (1994) examined hindering events in group therapy that predicted poor therapeutic progress. The third most prevalent client-reported category of hindering events involved self-concealing behaviours, including covering up feelings, leaving things left unsaid, and failing to disclose pertinent information to the group. Correlational research also has demonstrated a negative relationship between self-concealment and therapeutic progress. Wright and colleagues (1985) found that the amount of information clients kept hidden from other clients within group therapy was associated with greater

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dissatisfaction with the therapy sessions. Thus, self-concealment appears to hinder clients' experiences of therapy in a group setting.

However, research examining the possession of relevant secrets in therapy has demonstrated a positive link with therapeutic improvement. Kelly (1998) found that client concealment of a specific secret was related to reduced symptomatology among a sample of 42 outpatients who had been participating in individual therapy for an average of 11.20 sessions. This result was found even after controlling for social desirability and clients' general tendencies to conceal personal information on the SCS. Kelly concluded that this finding offered support for her theory that therapy is a self-presentational process. That is, clients derive benefit from therapy when they construct desirable self-images, which occurs by presenting themselves in a favorable manner and then receiving feedback from their therapist that is consistent with how they wish to be seen.

However, given that this finding pertained to concealment of a specific secret relevant to the therapy process, it might not reflect the actual relationship between clients' general predispositions to conceal personal information and their psychological well-being over the course of therapy. Consistent with this idea is Kelly's (1998) finding that a greater general tendency to keep secrets as assessed by the SCS was associated with greater psychological distress over the course of therapy. This finding supports the proposition of self-concealment being linked to greater psychological distress (Larson & Chastain, 1990), and fits with previous studies showing a similar relationship (Kahn and Hessling, 2001;Vrij et al., 2002).

Discrepancies in associations between psychological distress over the course of therapy with general self-concealment vs. specific secret keeping in therapy might be

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explained by differences in motivations between the different forms of concealment. As previously noted, possession of relevant secret in therapy is thought to enable clients to create a positive self-image in front of the therapist and therefore experience psychological wellbeing (Kelly, 2002). However, keeping a relevant secret within a specific context (i.e. therapy) appears to be conceptually different than the construct of self-concealment, which reflects a global tendency to withhold personal information across contexts and to experience apprehension about the potential consequences of revealing secrets. It is this general self-concealment tendency, rather than possession of a specific secret, that has been linked to psychological distress during therapy (Doxsee & Kivlighan, 1994; Kelly, 1998; Wright et al., 1985). The present study sought to expand this latter area of research by investigating the relationship between participants' general self-concealment tendencies and therapy outcome. Future research, however, should continue to investigate links between therapy outcome and concealment of specific secrets in therapy.

Self-concealment and therapy outcome. The treatment literature generally has construed keeping secrets in therapy as having potentially negative effects on the progress and outcome of psychotherapy (e.g., Evans, 1976; Saffer, Sansone, & Gentry, 1979). Unfortunately, however, there is a lack of systematic research that has investigated the association between self-concealment and therapeutic outcome. Furthermore, the findings are inconsistent. Some studies indicate a link between greater self-concealment and poorer therapy outcome. Other studies do not show an association between these two constructs. Still other studies link self-concealment with better therapy outcome. Thus, the relationship of client concealment to therapy outcome is unclear (Hill et al., 2000).

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Several studies indirectly support the hypothesis that greater self-concealment contributes to poorer therapy outcome. Self-concealment has been associated with inferior recovery from severe trauma (Harvey, Stein, Olsen, & Roberts, 1995). In a related vein, McNair, Lorr, and Callahan (1963) studied client factors that predicted continuation in psychotherapy in a sample of 282 outpatients. They found that clients who continued in therapy for 26 weeks were more willing to discuss and explore their personal problems than were clients who prematurely terminated therapy after seven weeks. This finding suggests that individuals who are less likely to conceal personally distressing information are more likely to persist with therapy. To date, however, research has not specifically examined self-concealment in relation to continuation in psychotherapy. This study, therefore, investigated whether a greater tendency to conceal personal information was associated with premature termination from therapy.

Other studies did not find a link between self-concealment and therapy outcome. For example, Hill and colleagues (1993) found that the number of secrets clients reported concealing from their therapists was not related to satisfaction with therapy or to symptom change over the course of therapy. Moreover, a few studies suggest that a higher predisposition for self-concealment is linked to better therapy outcome. For example, Regan and Hill (1992) found that clients who withheld a greater proportion of emotionally-laden statements (e.g., "I was feeling anxious about being videotaped and having to review the videotape at the end," p.169) were more satisfied with therapy and their progress than were clients who provided more emotional-content comments.

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The present study attempted to clarify the relationship between self-concealment and therapy outcome by examining whether self-concealment predicted change in distress level from pre- to post-therapy and if so, determining the direction of this change.

Is the Association Between Self-Concealment and Therapy Outcome Meaningful?

A central goal in psychotherapy research is to determine whether links between distress reduction from pre- to post-therapy and various client, therapist, or therapy variables are of clinical value, that is, whether such associations assist clinicians to more effectively implement their treatments. With regard to the present study, if self-concealment predicts clients' response to therapy independent of other factors that have been shown to predict therapy outcome, such a finding would potentially be of clinical utility. This finding would support the argument that self-concealment is a unique and an important factor that affects therapeutic progress and outcome apart from other conditions. More importantly, it would suggest that it might be helpful for clients' tendencies to conceal personal and distressing information to be addressed during the course of therapy in order to improve clients' response to treatment, resulting in a greater reduction of distress. The present study therefore examined whether low intake self-concealment and self-concealment reduction predicted a meaningful reduction in distress over the course of therapy independent of other factors that are claimed to impact therapy outcome, such as the duration of therapy, client gender, and clients' initial distress levels.

It has been argued that a greater number of therapy sessions engenders enhanced and more lasting therapeutic outcome. For example, Howard, Kopta, Krause, and Orlinsky (1986) found that, between one and eight sessions, the proportion of clients displaying measurable improvement expanded from 15 percent to 50 percent. That

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proportion increased to 75 percent by the 26th session and to 85 percent by the end of the first year. The authors concluded that longer duration in treatment predicts better outcome. Several researchers have since reported a similar dose-response relationship between number of therapy sessions and more therapeutic gains (Barkham et al., 1996; Kordy, von Rad, & Senf, 1988; Luborsky, Crits-Cristoph, Mintz, & Auerbach, 1988; Macdonald, 1994; Tarrier, Sommerfield, Pilgrim, & Faragher, 2000). These findings suggest that a longer duration in therapy predicts a greater reduction in distress from intake to termination.

The claim that client gender influences psychotherapy outcome is based on literature that suggests differences between men and women in psychological development (Miller, 1984), modes of communication (Tannen, 1990) and level of intimacy in relationships (Belle, 1982), all of which are thought to impact the therapeutic process. Although the link between gender and client response to therapy is not clearly understood, several studies report greater symptom reduction over the course of therapy among females than among males (Koerlin & Wrangsjoe, 2001; Raesaenen, Nieminen, & Isohanni, 1999; Tarrier et al., 2000).

Lastly, clients' levels of distress and symptomatology at therapy intake are thought to affect both the overall level of distress at therapy termination and the degree of change in distress over the course of therapy. Research findings generally indicate that lower levels of depression (Persons, Burns, & Perloff, 1988) and anxiety (De Araujo, Ito, & Marks, 1996; Persson, Alstroem, & Nordlund, 1984), less general distress (Kaufman, 1998), better initial functional status (Plotkin & Wells, 1993), and fewer psychiatric symptoms (Oejehagen et al., 1992) at therapy intake are linked with lower absolute

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termination distress ratings. However, higher intake distress levels predict a better response to treatment, including greater reduction in distress (Conte et al., 1988), and a greater degree of positive change (Woodward & Jones, 1980) at therapy termination. Taken together, these findings suggest that clients who report higher distress and symptomatology levels at intake show greater distress and symptom change but also continue to have more severe distress and symptoms at termination.

Given that intake levels of global distress, depression, and anxiety, gender, and therapy duration each may influence clients' responses to treatment, the present study examined whether the relationship between self-concealment and reduction of distress from pre- to post-therapy held after accounting for these other factors.

Limitations of Previous Research

The above examples illustrate that research on the relationship between self-concealment and therapeutic outcome is limited, inconsistent and unclear. The lack of clarity likely is due, in part, to methodological inconsistencies. Different researchers used different definitions and measures of self-concealment and therapy outcome, and many studies employed measures with unknown psychometric properties (Hill et al., 2000). Studies also differed in terms of length of the therapy and populations sampled.

For example, a broad range of phenomena has been included within the construct of client self-concealment, making it difficult to generalize across studies (Hill et al., 2000). Self-concealment has been defined and studied as hidden reactions (Hill et al., 1993; Regan & Hill, 1992), things left unsaid in therapy (Hill et al., 1993; Kelly, 1998), or secrets (Hill et al., 1993; Kelly, 1998), all of which have been differently operationalized.

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Different measures also have assessed self-concealment. Measures other than the SCS include therapist ratings of client self-concealment based on videotapes of therapy sessions and client self-report measures developed for a specific study for which validity or reliability was unreported and/or not replicated (Hill et al., 2000). Similarly, studies have used various measures to assess therapy process and outcome, including ratings of therapy helpfulness, session depth and smoothness, client satisfaction with therapy, and client symptomatology.

Such variation and lack of standardization of measures and procedures likely has contributed to the inconsistency of the findings. Consequently, methodological problems limit our understanding of the phenomenon of self-concealment and its relationship with therapy outcome. The present study addressed these methodological limitations by using standardized measures of psychological distress and the Self-Concealment Scale (SCS; Larson & Chastain, 1990), which is a psychometrically sound measure that captures a general tendency to conceal personal and distressing information from others. All measures have been used extensively in the clinical and empirical literature.

The current study was the first empirical investigation to date that, not only examined the link between self-concealment and distress, including associations between changes in these measures from pre- to post-therapy, but also investigated whether this relationship was sustained independent of other factors that predict therapy outcome. These methodological refinements, in addition to the utilization of a larger clinical sample, permitted a more reliable test of how self-concealment is related to therapy outcome.

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Additional Methodological Issues

Use of therapists' and clients' ratings. Traditionally, the therapist's perspective has guided our understanding of therapy outcome (Paulson et al., 1999). Therapists' subjective evaluations of clients' improvement often indicate the degree to which change in their clients' functioning is readily noticed by an external audience. However, methodological concerns, such as therapist rating biases (Stahler, 1983) and a lack of cohesion between therapist and client ratings of therapy outcome (Dickerson & Coyne, 1987; Lebow, 1983) have led researchers to study clients' perceptions of their progress over the course of therapy. Increasingly in research, the client's perspective is being recognized as valuable if not essential to understanding therapeutic process and outcome (Elliot, 1985; Orlinsky & Howard, 1986; Sells, Smith, & Moon, 1996). Clients' ratings are associated with outcome at least as strongly as are judges' ratings (Gurman, 1977; Lambert, DeJulio, & Stein, 1978). Furthermore, clients' perspectives about themselves and their therapy experience can offer a unique understanding of the therapeutic process (Paulson, Truscott, & Smart, 1999).

Despite possible biases in client and therapist ratings (Frieswyk et al., 1986; Stahler, 1983), both views represent legitimate measures of different realms of therapy outcome, neither of which is necessarily more objective or significant than the other (Eckert, Abeles, & Graham, 1988). Moreover, evaluating client change from multiple perspectives provides a more comprehensive assessment of therapy outcome (Lambert, 1983). Consequently, the present study assessed the relationship between self-concealment and therapy outcome based on both clients' and therapist's ratings of the change in clients' level of distress over the course of therapy. Such an investigation can

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potentially elucidate a clearer understanding of the relationship between self-concealment and change in distress over the course of therapy.

Statistical and clinical significance of therapeutic outcome. The majority of studies rely on statistical significance as a means of assessing psychotherapy outcome. That is, a certain probability-based criterion is used to evaluate the extent to which the results of a study are likely to be due to genuine effects rather than to chance (Kazdin, 1998). A common criticism, however, is that the statistical significance of psychotherapy outcome has little to do with the practical importance of the effect. Researchers, therefore, have proposed the use of statistical methods that can illuminate the degree to which individuals have recovered at therapy termination (Jacobson, Follette, & Revenstorf, 1984). This alternative criterion is called clinical significance and it enables researchers to evaluate the extent to which changes in therapy make an important difference to clients' functioning (Kazdin, 1998).

Clinical significance typically has been evaluated in one of three ways: a) comparison methods, b) subjective evaluation, and c) social impact measures (Kazdin, 1998). Comparison methods involve comparing clients to some standard to determine if change in therapy is clinically significant. For example, improvement in therapy is deemed clinically significant if clients' distress scores at the end of therapy fall within a normative sample (Chambless & Hollon, 1998), if their distress scores are lower by more than two standard deviations from the mean of a dysfunctional sample (Jacobson & Revensdorf, 1988), or if clients no longer meet criteria for a disorder following therapy termination (Kazdin, 1998).

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Subjective evaluation refers to the extent to which the effects of an intervention can be noticed by others and involves using global rating scales to assess others' opinions (Chambless & Hollon, 1998; Kazdin, 1998). Lastly, social impact measures assess whether clients have changed in ways that have an impact on society. Outcome measures include data such as number of hospitalizations, sick days, illnesses, relapses, and visits to a physician following treatment.

Recently, Tingey, Lambert, Burlingame, and Hansen (1996) have proposed a more refined procedure for assessing clinical significance that is based on reliable change estimates and cutoff scores. This procedure represents an advancement from previous methods since it identifies individuals who make clinically meaningful change, even if their distress level is not reduced to a normative range. Clinical significance of change is met when: a) the difference between clients' pre- and post-therapy distress scores is greater than a minimal cut-off point, thereby attesting to the reliability of the change, and when b) clients' distress scores at post-therapy fall within a more functional sample than their pre-therapy scores. This procedure was used by the present study.

Distinction between premature vs. regular termination. Another methodological issue pertains to the operational definition of premature termination versus continuation in psychotherapy. Garfield (1994) has defined a premature terminator or dropout as "one who has been accepted for psychotherapy, who actually has at least one session of therapy, and who discontinues treatment on his or her own initiative by failing to come for any future arranged visits with the therapist" (p. 195). Unfortunately, arbitrary designations of "remainers" and "continuers" limit the meaningfulness and comparability of some past studies. Several studies, however, have shown that the majority of clients

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that prematurely drop out of treatment without mutual agreement between the client and therapist do so between the fourth and sixth sessions (Blackwell, Gutmann, & Gutman, 1988; Garfield & Kurz, 1952; Howard, Davidson, O'Mahoney, Orlinsky, & Brown, 1989; Taube, Burns, & Kessler, 1984). Other studies have used four sessions as the dividing line between continuers and drop-outs (Beck et al., 1987; Vail, 1978). For the purposes of the present study, clients who attended at least one therapy session but no more than four sessions, and stopped therapy without mutual agreement between the client and the therapist, were defined as premature terminators.

Summary

Self-concealment is a conscious and strategic behaviour that is governed by self-presentational, identity, and interpersonal motives. A greater predisposition to conceal personal information from others appears to contribute to negative physical and psychological consequences. Self-concealment has been studied in relation to attitudes toward therapy, willingness to seek therapy, and progress during a particular stage of therapy. The findings, however, have been sparse and inconclusive, partially due to methodological inconsistencies. Furthermore, to date, research has not studied change in self-concealment over the course of therapy and self-concealment in relation to therapy outcome, measured by either premature termination or reduction in distress and symptomatology from pre- to post-therapy. Moreover, research has not examined whether low self-concealment or change in self-concealment predicts a clinically significant reduction in distress level over the course of therapy independent of other influences such as client gender, initial levels of distress, and duration of treatment.

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Purpose of the Present Study

The present study addressed past methodological limitations and investigated the relationship between self-concealment and therapy outcome among a clinical sample of students seeking psychotherapy at a university clinic. Since university students are not immune to experiences and perceptions that prompt concealment from others (Ichiyama et al., 1993), gaining a better understanding of the relationship between self-concealment and therapy outcome could potentially aid therapists who work with this population.

Hypotheses and Questions of Study

A1. Based on previous studies in which a greater tendency to conceal personal and distressing information was associated with greater depressive and anxiety symptoms (Ichiyama et al., 1993; Kahn & Hessling, 2001; Kelly & Achter, 1995; Larson & Chastain, 1990; Pennebaker et al., 1988) it was proposed that higher levels of self-concealment at intake would be directly related to greater global distress, depression, and state and trait anxiety at intake. It also was proposed that higher levels of self-concealment at intake would predict greater global distress, depression, and state and trait anxiety at intake after accounting for client gender.

A2. Based on the finding by Harvey et al (1995) that a greater tendency to conceal personal information was associated with inferior recovery from a trauma, it was proposed that higher levels of self-concealment at intake would be directly related to greater global distress, depression, and state and trait anxiety at termination of therapy. It also was proposed that higher levels of self-concealment at intake would predict greater global distress, depression, and state and trait anxiety at therapy termination after accounting for client gender and initial distress level.

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A3. Based on the finding that a greater willingness to discuss personal problems was associated with persistence in therapy (McNair et al., 1963), it was proposed that higher levels of self-concealment at intake would be directly related to premature termination from therapy and would predict premature termination from therapy after accounting for client gender and initial distress level.

A4. Based on studies reporting a link between a greater tendency to conceal personal and distressing information and poorer therapeutic progress (Doxsee & Kivlighan, 1994; Kelly, 1998), it was proposed that lower levels of self-concealment at intake would be directly related to statistically significant reductions in clients' global distress, depression, and state and trait anxiety from pre- to post-therapy. Furthermore, it was proposed that lower levels of self-concealment at intake would predict reductions in clients' global distress, depression, and state and trait anxiety from pre- to post-therapy after accounting for client gender, initial distress level, and duration of treatment. Lastly, it was proposed that lower levels of self-concealment at therapy intake would be directly related to a clinically significant reduction in clients' global distress scores from pre- to post- therapy and that lower levels of self-concealment at intake would predict a clinically significant reduction in clients' distress scores from pre- to post-therapy, after accounting for client gender, initial distress level, and duration of treatment.

A5. Also based on studies reporting a link between a greater general tendency to conceal personal and distressing information and poorer therapeutic progress (Doxsee & Kivlighan, 1994; Kelly, 1998), lower levels of client-rated self-concealment at intake were expected to be directly related to a statistically significant improvement

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in overall psychological functioning as reported by clients' therapists. Lower levels of self-concealment at intake also were expected to predict therapist rating of client improvement from pre- to post-therapy after accounting for initial distress level.

We also asked three exploratory questions consistent with theory but lacking any empirical support to date:

B1. We examined whether self-concealment changed from intake to termination and, if so, in what direction this change occurred.

B2. We examined whether change in self-concealment from pre- to post-therapy was associated with change in global distress, depression, state anxiety, and trait anxiety from pre- to post-therapy. We then examined whether change in self-concealment from pre- to post-therapy predicted change in global distress, depression, and state and trait anxiety from pre- to post-therapy, after accounting for client gender, initial distress level, and duration of therapy.

C. Lastly, we explored the relationship between self-concealment and various demographic client variables (gender, age, religion, marital status, parents' country of birth, university program, year in university, and client-reported problem areas at intake) as a preliminary investigation to assess whether self-concealment varied among people who differed on these factors.

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CHAPTER II

METHOD

Participants

Four hundred and six participants (109 male, 297 female), consisting of undergraduate and graduate university students, attended an initial intake session at University of Windsor's Psychological Services Centre between September 1998 and January 2002.

The mean age of participants was 23.95 years (*SD* = 6.37) and their mean number of years of post-secondary education was 1.71 years (*SD* = 1.93). Ethical requirements and the Ontario Human Rights Commission prohibited the formal solicitation of race or ethnicity. Participants, however, indicated their parents' country of origin. Of the 406 participants, 49.3 percent reported that one or more parents were of North American origin, 12.1 percent of participants' parents were of European origin, 9.6 percent were of African origin, 4.0 percent were of Arabic origin, 3.6 percent were of Indian origin, 3.3 percent were of Asian origin, 1.1 percent were of Caribbean origin, and 17.0 percent did not indicate their parents' country of origin. The majority of participants were enrolled in a social science program (33.0 percent), followed by arts (22.5 percent), business or science (9.8 percent), law (4.5 percent) engineering (2.9 percent), education (1.8 percent), human kinetics (1.1 percent), and post-graduate studies (0.7 percent). Several participants (11.6 percent) did not indicate their program of study and 2.2 percent of participants had not chosen a program of study.

The initial sample of 406 participants was used to examine the associations between self-concealment, global distress, depression, and state and trait anxiety at

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therapy intake. However, several clients did not respond to all of the intake distress measures. Consequently, the sample size for the analyses varied from 366 to 397 participants. From the initial sample ($N = 406$), 56 participants prematurely terminated from therapy, 22 participants terminated therapy between five and seven sessions or received crisis or group therapy, and 79 participants attended eight or more individual therapy sessions. These 79 participants were used in analyses that examined associations among the variables at therapy termination and over the course of therapy. There were an additional 247 participants that terminated therapy but they were excluded from these analyses because they did not respond to all measures at therapy intake and/or at therapy termination and thus, their data was incomplete.

Procedure

As part of the intake procedure at the clinic, all clients responded to several psychological measures and completed a demographic information questionnaire. Clients also indicated their areas of concern from a list of 21 problems (see Appendix A). The mean number of concerns reported by clients was 5.11 ($SD = 3.03$). Of the 21 possible concerns, the top five reported were depression/suicidal ($N = 260$), anxiety/panic/phobias ($N = 259$), family relationships ($N = 246$), academic/vocational issues ($N = 205$), and partner concerns/ breakup ($N = 168$). Clients had either sought assistance at the clinic on their own, or had been referred by the student counseling center, campus physicians, professors, or friends.

Following the intake, clients were assigned a therapist. Therapists were either licensed psychologists (10 percent) or graduate psychology students (90 percent) under the supervision of licensed psychologists.

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When clients terminated therapy, they again responded to the same psychological measures for evaluation of treatment efficacy. Clients' demographic information, responses to items, and total scores on the questionnaires were anonymously saved in the Psychological Services Centre database. This study analyzed clients' pre-treatment and post-treatment scores from four measures stored in the Psychological Services Centre database: the Self-Concealment Scale (SCS; Larson & Chastain, 1990), the Symptom Check List-90-Revised (SCL-90-R; Derogatis, 1983), the Beck Depression Inventory-Revised (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983).

Each client was assured anonymity by two procedures. First, the database is anonymous. Each client was assigned a number and only this number is linked to the scores on the database. Second, the researcher did not have access to any of the clients' records other than the information in the anonymous database. All clients were informed that their responses to the questionnaires could be used anonymously for research purposes and had signed their consent for the use of their responses. The data from the Psychological Services Centre database was approved for use in research by the University of Windsor's Research Ethics Committee. This study followed appropriate ethical procedures.

Measures and Materials

The *Self-Concealment Scale* (SCS; Larson & Chastain, 1990) is a 10-item self-report questionnaire that assesses individuals' tendencies to conceal negative or distressing personal information from others (see Appendix B). Participants rate on 5-point scales (1 = strongly disagree, 5 = strongly agree) the degree to which they endorse

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each item. Higher scores reflect a greater tendency to conceal. Larson and Chastain (1990) reported an internal consistency in a sample of 306 participants of .83, as well as a test-retest reliability in a sample of 43 female graduate psychology students of .81 after four weeks. Other researchers report similar psychometric properties (e.g., Cepeda-Benito & Short, 1998; Cramer & Barry, 1999; Ichiyama et al., 1993; Kelly & Achter, 1995). For the purpose of the present study, SCS scores will be used to assess participants' tendencies to conceal personally distressing information from others at both therapy intake and termination.

The *Symptom Check List-90-Revised* (SCL-90-R; Derogatis, 1983) is a 90-item self-report questionnaire that measures symptom distress (see Appendix C). Clients rate on a five-point scale (0 = not at all, 4 = extremely) the degree of distress experienced over the past seven days on each item. This questionnaire has been validated in studies assessing psychological adjustment and adaptation (e.g., Creamer, Burgess, & Pattison, 1992; Morgan & Janoff-Bulman, 1994). The SCL-90-R contains nine symptom scales and three global indices of psychological distress. Derogatis reported internal consistencies in a sample of 196 students ranging from .77 to .90 for the symptom scales and test-retest reliabilities over a one-week interval between .80 and .90. For the purpose of this study, we will use one global index of distress, the Global Severity Index (GSI), to assess clients' levels of distress at both therapy intake and termination, as well as the degree of change in level of distress over the course of therapy. The GSI is the best overall measure for evaluating degree of psychological distress (Derogatis, 1983), with lower scores reflecting less distress.

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The *Beck Depression Inventory-Revised* (BDI; Beck et al., 1961) is a 21-item self-report questionnaire that measures the presence and severity of depressive symptoms (see Appendix D). Each item has four statements rated from 0 to 3 (neutral to maximal severity). Clients circle which statement best describes how they have been feeling during the past two weeks. Higher scores reflect a greater severity of depression. The BDI has been widely used both clinically and in research with psychiatric and non-psychiatric populations and has been characterized as one of the better self-report measures of depression (Campbell, Burgess, & Finch, 1984; Kerner & Jacobs, 1983). Beck, Steer, and Garbin (1988) conducted a review and meta-analysis of studies that have utilized the BDI. The authors reported that the scale had high internal consistency (mean coefficient alphas were .86 for psychiatric samples and .81 for non-psychiatric samples) and good reliability, with test-retest correlations ranging from .48 to .86 for psychiatric samples and .60 to .83 for non-psychiatric samples (time intervals ranged from hours to weeks).

The *State Trait Anxiety Inventory-Form Y* (STAI; Spielberger et al., 1983) is a brief self-report questionnaire that measures and differentiates between anxiety as a state and a trait (see Appendix E). The state version of the STAI is a 20-item self-report measure in which clients rate on a 4-point scale (1 = not at all, 4 = very much so) the intensity of their feelings at a particular moment in time. The trait version of the STAI is a 20-item self-report measure in which clients rate on a 4-point scale (1 = almost never, 4 = almost always) the general frequency of their feelings. Speilberger (1983) reported internal consistencies among a sample of 324 male and 531 female undergraduate students of .91 and .93 on the trait and state scales, respectively. Speilberger (1983) also

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reported test-retest reliabilities in a sample of 88 male and 109 female undergraduate students that ranged from .73 to .86 and .16 to .62 on the trait and state scales, respectively (time intervals ranged from one hour to 104 days).

Therapist rating of client improvement over the course of therapy was assessed by a one-item scale that therapists were asked to complete whenever a client terminated therapy (see Appendix F). Therapists rated on a five-point scale (1 = much improved, 5 = much worse) the client's "overall changes since the beginning of therapy." For the purpose of this study, the scores were reversed so that a higher score reflected greater improvement over the course of therapy.

Duration of therapy was assessed by the number of sessions that clients attended. Premature termination was defined as attending four or fewer sessions of therapy and ending therapy without agreement by the therapist. This distinction is in accordance with previous studies (e.g., Beck et al., 1987; Vail, 1978). Furthermore, many clients who attended between five and seven therapy sessions were later-therapy dropouts because they prematurely discontinued therapy without agreement by the therapist. Consequently, only those clients who remained in therapy for eight or more sessions and who terminated therapy with agreement of the therapist were included in the analysis examining self-concealment in relation to change in distress level over the course of therapy.

Lastly, clinical significance of change in distress over the course of therapy was evaluated using clients' pre- and post-therapy GSI scores and according to the two criteria derived by Tingey et al. (1996) (see Figure 1). The first criterion is that clients' post-treatment GSI scores must be in a higher functioning sample than their pre-treatment scores (Tingey et al., 1996). The authors derived four distinct and normative samples of

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GSI scores that range along a continuum from asymptomatic to severely symptomatic. GSI scores that range from 0 to 0.23 are within the asymptomatic sample, GSI scores ranging from 0.24 to 0.51 are representative of the mildly symptomatic sample, GSI scores between 0.52 and 0.97 are within the moderate symptomatic sample, and GSI scores that are 0.98 and above are within the severely symptomatic sample. Clinical significance is achieved when clients' distress scores on the GSI move to a more functional sample distribution (Tingey et al., 1996). Thus, clients whose pre-treatment GSI scores in the severely symptomatic range moved to either the moderate, mild, or asymptomatic range at post-treatment all would meet this criterion for clinical significance. The advantage of this criterion is that clients do not have to enter the most functional sample distribution to be considered clinically improved. Consequently, this technique allows for identification of clients who gain significant benefits from therapy even if they remain somewhat dysfunctional (Tingey et al., 1996).

The second criterion for clinical significance is determined by Tingey et al.'s (1996) reliable change index (RCI) grid. The grid contains RCI cut-off points between each of the distributions. Each cut-off point indicates the minimum difference between a client's pre- and post-treatment GSI score necessary for this difference to be considered reliable. Thus, in addition to requiring that pre- and post-treatment scores be within different samples, the RCI criterion ensures that the difference between these scores is large enough to be considered reliable.

Based on these two criteria, the present study compared participants' pre- and post-treatment GSI data to the normative standards and RCI grid identified by Tingey et al. (1996) to determine the clinical significance of change.

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CHAPTER III

RESULTS

Overview of Data Analyses

All analyses were performed using SPSS for Windows. Following descriptive analyses, bivariate correlations were conducted to test the magnitude and direction of associations among global distress, depression, state anxiety, trait anxiety, duration of therapy, gender, therapist ratings of client change, and self concealment. Standard multiple regression analyses were conducted to test the significance of proposed hypotheses linking global distress, depression, state anxiety, trait anxiety, duration of therapy, and gender with self-concealment at therapy intake and termination. Standard multiple regression analyses also were performed to test the significance of proposed hypotheses comparing premature termination from therapy and reduction in global distress, depression, state anxiety, and trait anxiety with self-concealment at therapy intake. In addition, standard multiple regression analyses were performed to test the significance of the proposed hypothesis comparing clinically significant improvement in therapy and self-concealment scores. Lastly, bivariate correlations and multivariate multiple regression analyses were conducted to examine the questions of study investigating whether self-concealment changes from pre- to post- therapy and, if so, whether change in self-concealment is linked to change in distress. The experimentwise alpha level was set at .05 for all statistical procedures.

Descriptive Statistics

The means and standard deviations for the measures of the independent variables in the study are presented in Table 1. Given the large number of variables entered into the

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Table 1. *Descriptive Statistics and Correlations among Variables*

Measures	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	Mean	*SD*
1. SCS 1	.52**	.52**	.44**	.01	.30	.43**	.02	.31	.35**	.04	.17	.46**	.05	.27	.03	.21	29.27	9.19
N	72	72	366	72	72	396	72	72	397	72	72	397	72	72	27	72	406	
2. SCS 2		-.46**	.06	.27	-.13	.09	.26	-.13	.06	.33	-.24	.21	.43**	-.21	-.20	.27	26.01	8.99
N		72	72	72	72	72	72	72	72	72	72	72	72	72	27	72	72	
3. SCS CHNG			.28*	-.27	.45**	.23	-.24	.44**	.18	-.29	.41**	.12	-.38**	.49**	.19	-.06	3.14	8.43
N			72	72	72	72	72	72	72	72	72	72	72	72	27	72	72	
4. GSI 1				.28	-.72**	.77**	.20	.56**	.68**	.20	.46**	.70**	.26	.46**	.40	.01	1.30	0.63
N				72	72	362	72	72	362	72	72	362	72	72	27	72	397	
5. GSI 2					-.46**	.32	.79**	-.36*	.28	.76**	-.41**	.40*	.78**	-.37*	-.27	.15	0.84	0.59
N					72	72	72	72	72	72	72	72	72	72	27	72	72	
6. GSI CHNG						.43**	-.38*	.77**	.45**	-.36*	.72**	.38*	-.32	.69**	.53	-.10	0.53	0.66
N						72	72	72	72	72	72	72	72	72	27	72	72	
7. BDI 1							.45**	.63**	.66**	.35	.30	.72**	.35	.42**	.22	.05	18.24	9.77
N							72	72	397	72	72	397	72	72	27	72	400	
8. BDI 2								-.41**	.27	.68**	-.36*	.40*	.73**	-.32	-.16	.28	10.56	8.89
N								72	72	72	72	72	72	72	27	72	72	
9. BDI CHNG									.46**	-.24	.62**	.43**	-.28	.70**	.31	-.19	7.63	9.01
N									72	72	72	72	72	72	27	72	72	
10. STAI-S 1										.36*	.58**	.60**	.32	.35	.23	.01	51.82	12.82
N										72	72	406	72	72	27	72	406	
11. STAI-S 2											-.56**	.34	.78**	-.42**	-.39	.15	41.25	12.47
N											72	72	72	72	27	72	72	
12. STAI-S CHNG												.29	-.39*	.68**	.50	-.12	10.49	13.27
N												72	72	72	27	72	72	
13. STAI-T 1													.49**	.52**	-.01	.02	52.74	11.27
N													72	72	27	72	406	
14. STAI- T 2														-.49**	-.37	.14	46.00	11.62
N														72	27	72	72	
15. STAI-T CHNG															.29	-.11	7.89	11.42
N															27	72	72	
16. THERAPIST																-.26	1.67	0.60
N																27	27	
17. ATTEND																	12.25	10.38
N																	72	

Note. N = number; SCS 1 = intake Self-Concealment Scale; SCS 2 = termination Self-Concealment Scale; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; GSI 2 = termination Global Severity Index; GSI CHNG = change in Global Severity Index from pre- to post-therapy; BDI 1 = intake Beck Depression Inventory; BDI 2 = termination Beck Depression Inventory; BDI CHNG = change in Beck Depression Inventory from pre- to post-therapy; STAI-S 1 = intake State Anxiety Inventory; STAI-S 2 = termination State Anxiety Inventory; STAI-S CHNG = change in State Anxiety Inventory from pre- to post-therapy; STAI-T 1 = intake Trait Anxiety Inventory; STAI-T 2 = termination Trait Anxiety Inventory; STAI-T CHNG = change in Trait Anxiety Inventory from pre- to post-therapy; THERAPIST = therapist rating of client change; ATTEND = number of sessions attended. ** p <.01, ***p < .001.

correlation matrix, a Bonferroni correction was applied to the experiment alpha level of .05 to reduce the possibility of a Type I error. Consequently the alpha level for each variable was set at .003. Importantly, participants' intake levels of global distress (GSI 1), depression (BDI 1), state anxiety (STAI-S 1) and trait anxiety (STAI-T 1) were comparable to reports of GSI, BDI, and STAI scores among outpatient samples at university counseling centers (Davison, 1998; Hekman-Neunzig, 1999; Johnson, Ellison, & Heikkinen, 1989; McNamara & Horan, 1986; Porter, Wilson, & Frisch, 1994; Todd, Deane, & McKenna, 1997). Intake self-concealment (SCS 1) scores of the present study also were comparable to published norms (e.g.'s, Cepeda-Benito & Short, 1998; Larson & Chastain, 1990).

Regarding distress levels among participants in the present study, participants' mean intake GSI score of 1.30 (*SD* = .63) on the SCL-90-R corresponded to a *t*-score of 69 for males and a *t*-score of 74 for females, which suggests that participants were experiencing significant recent symptom distress. Participants' mean intake BDI score of 18.24 (*SD* = 9.77) suggests that, on average, they endorsed a moderate level of depression prior to beginning therapy (Beck, Steer, & Garbin, 1988). Lastly, participants' mean intake STAI-S score of 51.82 (*SD* = 12.82) and mean STAI-T score of 52.74 (*SD* = 11.27) both correspond to a *t*-score of 65 based on college population norms. This finding suggests that, at therapy intake, participants endorsed significant levels of both enduring anxiety and more recent emotional experiences of fear, worry, and apprehension. Taken together, the present findings indicate that this study likely assessed a representative clinical sample of individuals who were experiencing significant psychological distress and symptomatology prior to therapy.

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Initially among the 79 participants who attended eight or more therapy sessions, 38 participants demonstrated a clinically significant reduction of global distress (GSI) over the course of therapy, 39 participants did not demonstrate a clinically significant reduction in GSI scores, and 2 participants demonstrated a clinically significant increase in GSI scores over the course of therapy.

Preliminary Analysis

Reliability analyses were performed on all measures prior to using them in correlation, *t*-test, and multiple regression analyses. Cronbach's alpha coefficients of all the measures were as follows: SCS at intake (α = .89), SCS at termination (α = .89), GSI at intake (α = .97), GSI at termination (α = .98), BDI at intake (α = .88), BDI at termination (α = .90), STAI-S at intake (α = .90), STAI-S at termination (α = .90), STAI-T at intake (α = .88) and STAI-T at termination (α = .89). Thus all scales had acceptable inter-item reliabilities (Nunnally, 1978).

All measures were tested for normal distribution patterns and the presence of outliers. None of the measures had significantly skewed distributions or showed significant kurtosis. Furthermore, the expected normal distribution probability plots of all the measures tended to approximate a diagonal line, suggesting normality of the data. Thus, all variables satisfied the necessary conditions for fulfilling assumptions of normality (Tabachnick & Fidell, 1999). However, SCS, GSI, and BDI scores at termination and BDI, STAI-S and STAI-T reduction scores from pre- to post-therapy all had outliers at the high end of their distributions that were contributing to positively skewed distributions and were influencing the significance of some of the correlations with other variables. STAI-T intake scores also had an outlier at the low end of the

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distribution that was influencing the significance of some of the correlations with other variables. Consequently, seven outliers were removed from the solution in order to prevent potential confounding of significant results. Of the remaining 72 participants, 36 participants demonstrated a clinically significant reduction of global distress (GSI) over the course of therapy, 34 participants did not demonstrate a clinically significant reduction in GSI scores, and 2 participants demonstrated a clinically significant increase in GSI scores over the course of therapy.

Prior to conducting multiple regression analyses, residual scatterplots of the multiple regression equations were examined to test the assumptions of normality, linearity, and homoscedascity (Tabachnick & Fidell, 1999). The entry criterion was set at the .05 level and the removal criterion was set at the .10 level. Analyses of the residual scatterplots indicated that the residuals were normally distributed about the predicted dependent variable scores, the residuals had a linear relationship with the predicted dependent variable scores, and the variance of the residuals about the predicted dependent variable scores was approximately equivalent for all the predicted scores. Thus, the variables entered into the multiple regression equations satisfied the necessary conditions. Consequently, the results were valid and could be interpreted.

Correlational and T-Test Analyses

Table 1 presents the correlational matrix for all measures in the study. Table 2 presents the two-tailed *t*-test analyses comparing test scores at therapy intake with test scores at therapy termination among participants who attended therapy for eight or more sessions.

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Table 2

Paired Samples T-Test of Differences between Variables at Intake and at Termination among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	Mean	*SD*	S.E.	*df*	*t*-value	*p*
SCS 1 – SCS 2	3.29	8.94	1.05	71	3.123**	.003
GSI 1 – GSI 2	0.55	0.64	0.08	71	7.252***	< .001
BDI 1 – BDI 2	7.36	8.20	0.97	71	7.617***	< .001
STAI-S 1 – STAI-S 2	11.08	12.41	1.46	71	7.577***	< .001
STAI-T 1 – STAI-T 2	8.18	10.53	1.24	71	6.589***	< .001

Note. SCS 1 = intake Self-Concealment Scale; SCS 2 = termination Self-Concealment Scale; GSI 1 = intake Global Severity Index; GSI 2 = termination Global Severity Index; BDI 1 = intake Beck Depression Inventory; BDI 2 = termination Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-S 2 = termination State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; STAI-T 2 = termination Trait Anxiety Inventory.
** $p < .01$, *** $p < .001$.

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Associations among self-concealment scores. Table 2 shows that SCS scores reduced from pre- to post- therapy (t (71) = 3.123, p = .003). Furthermore, Table 1 shows that SCS scores at therapy intake were positively linked to SCS scores at therapy termination (r = .52, p < .001) and to reduction in SCS tendencies from pre- to post-therapy (r = .52, p < .001). In contrast, SCS scores at therapy termination were negatively linked to reduction in SCS from pre- to post- therapy (r = -.60, p < .001). These findings suggest that clients exhibit some stability in their general tendency to conceal personally distressing information at different time periods, that is, high self-concealers prior to therapy are likely to remain high self-concealers at therapy termination. However, the findings also suggest that a greater tendency for self-concealment prior to therapy allows for a greater reduction in self-concealment from pre- to post- therapy.

Associations among psychological distress measures. Table 1 shows that all distress scores at therapy intake (GSI 1, BDI 1, STAI-S 1, STAI-T 1) were positively associated with each other (p < .001). This finding supports previous studies indicating a positive relationship between various distress measures (Hansen & Lambert, 1996; Katon & Roy-Byrne, 1991; Kelly et al., 1996; Kush & Sowers, 1997; Moraru et al., 2002).

Regarding associations between pre- and post-therapy distress scores, Table 1 shows that intake global distress (GSI 1) was not found to be linked to any of the termination distress scores (GS1 2, BDI 2, STAI-S 2, STAI-T 2, p > .003). However, intake depression (BDI 1) was positively linked to termination depression (BDI 2) (r = .45, p < .001) and intake state anxiety (STAI-S 1) was positively associated with termination state anxiety (STAI-S 2) (r = .49, p < .001). Lastly, intake trait anxiety (STAI-T 1) was positively linked to all termination distress scores (GSI 2, BDI 2, STAI-S

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2, STAI-T 2) ($p < .001$). In general, these findings suggest that greater levels of particular aspects of distress at therapy intake are linked to higher corresponding distress scores at therapy termination. The findings additionally suggest that intake trait anxiety is linked to various aspects of distress at termination. These findings fit with previous studies that have reported similar results (De Araujo, Ito, & Marks, 1996; Kaufman, 1998 Oejehagen et al., 1992; Persons et al., 1988; Persson et al., 1984; Plotkin & Wells, 1993).

With regard to associations among pre-therapy distress scores and changes in distress from pre- to post- therapy, Table 1 shows that intake global distress (GSI 1) was positively linked to reduction in all distress scores (GSI CHNG, BDI CHNG, STAI-S CHNG, and STAI-T CHNG) from pre- to post- therapy ($p < .001$). Intake depression (BDI 1) was positively linked to reduction in global distress (GSI CHNG; $r = 43$, $p < .001$) and trait anxiety (STAI-T CHNG; $r = .42$, $p < .001$) but was not found to be linked to reduction in state anxiety (STAI-S CHNG; $r = .30$, $p > .01$). Intake state anxiety (STAI-S 1) was positively associated with reduction in global distress (GSI CHNG), depression (BDI CHNG), and state anxiety (STAI-S CHNG) ($p < .001$) but was not found to be linked to reduction in trait anxiety (STAI-T CHNG; $r = .35$ $p > .01$). Lastly, intake trait anxiety (STAI-T 1) was found to be linked to reduction in global distress (GSI CHNG), depression (BDI CHNG), and trait anxiety (STAI-T CHNG) ($p < .001$) but was not found to be linked to reduction in state anxiety (STAI-S CHNG; $r = .29$ $p > .01$). In general, these findings fit with previous studies (Conte et al., 1988; Follette, Alexander, & Follette, 1991; Woodward & Jones, 1980) and suggest that higher initial levels of distress are likely to reduce more from pre- to post- therapy.

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Regarding associations between reduction in distress and termination distress, termination global distress (GSI 2) was negatively linked to reduction in all distress scores (GSI CHNG, BDI CHNG, STAI-S CHNG, and STAI-T CHNG) from pre- to post-therapy ($p < .001$). Termination depression (BDI 2) was negative linked to reduction in global distress (GSI CHNG), depression (BDI CHNG), and state anxiety (STAI-S CHNG) ($p < .001$) but was not found to be linked to reduction in trait anxiety (STAI-T CHNG) ($r = -.32, p > .003$). Termination state anxiety (STAI-S 2) was negatively linked to reduction in global distress (GSI CHNG), state anxiety (STAI-S CHNG) and trait anxiety (STAI-T CHNG) ($p < .001$) but was not found to be associated with reduction in depression (BDI CHNG; $r = -.24$, $p > .003$). Lastly, termination trait anxiety (STAI-T 2) was negatively linked to reduction in state anxiety (STAI-S CHNG) and trait anxiety (STAI-T CHNG) but was not found to be linked to reduction in global distress (GSI CHNG) and depression ($p > .003$).

Table 2 additionally shows that, among continuers, participants' global distress (GSI), depression (BDI), state anxiety (STAI-S), and trait anxiety (STAI-T) scores all reduced from pre- to post- therapy ($p < .001$). Furthermore, Table 1 shows that reduction in global distress (GSI CHNG), depression (BDI CHNG), state anxiety (STAI-S CHNG), and trait anxiety (STAI-T CHNG) all were positively intercorrelated ($p < .001$). Thus, a reduction in one area of distress was linked to reduction in other areas of distress.

Lastly, with regard to associations among distress measures and clinically significant reduction in global distress (GSI CHNG) from pre- to post- therapy, Table 3 shows that a clinically significant reduction in global distress (GSI CHNG) was positively related to intake global distress (GSI 1; $r = .28, p < .05$) and to reductions in all

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Table 3

Correlations between Clinically Significant Reduction in Global Distress (GSI) and other Variables among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variables	Correlation with Clinically Significant Reduction in GSI from Pre- to Post- Therapy
Self-Concealment (SCS)	
Time 1 Intake	.16
Time 2 Termination	-.15
Change	.31***
Global Distress (GSI)	
Time 1 Intake	.28**
Time 2 Termination	-.57***
Change	.69***
Depression (BDI)	
Time 1 Intake	.09
Time 2 Termination	-.42***
Change	.45***
State Anxiety (STAI-S)	
Time 1 Intake	.16
Time 2 Termination	-.52***
Change	.60***
Trait Anxiety (STAI-T)	
Time 1 Intake	.01
Time 2 Termination	-.48***
Change	.48***

Note: ** $p < .01$, *** $p < .001$

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distress measures from pre- to post-therapy (bivariate correlations ranged from .31 to .69, $p < .001$). Furthermore, a clinically significant reduction in global distress was negatively related to all distress scores at therapy termination ($p < .001$).

In summary, although self-concealment scores at therapy intake and termination were positively linked, self-concealment reduced from pre- to post-therapy. Greater intake self-concealment also was linked to a greater reduction in self-concealment. Regarding associations among distress measures, intake global distress (GSI 1), depression (BDI 1), state anxiety (STAI-S 1), and trait anxiety (STAI-T 1) were all positively intercorrelated and intake distress scores were positively linked to their respective scores at termination. All distress scores were positively linked to their respective scores at termination. All distress scores significantly reduced from pre- to post- therapy and all distress measure reductions (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG) were positively intercorrelated. Furthermore, all intake distress scores (GSI 1, BDI 1, STAI-S 1, STAI-T 1) were positively associated with reductions of these scores from pre- to post- therapy. Lastly, a clinically significant reduction in global distress (GSI CHNG) was positively linked to reduction in all other distress measures (BDI CHNG, STAI-S CHNG, and STAI-T CHNG).

Results Concerning Hypotheses

Associations among intake self-concealment and psychological distress measures. Hypothesis A1 predicted that a greater tendency to conceal personal and distressing information at therapy intake would be linked to higher global distress, depression, and state and trait anxiety at therapy intake. Table 1 shows that, at therapy intake, a tendency to conceal personal and distressing information (SCS 1) was positively associated with

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greater global distress (GSI 1; $r = .44, p < .001$), depression (BDI 1; $r = .43, p < .001$) state anxiety (STAI-S 1; $r = .35, p < .001$), and trait anxiety (STAI-T 1; $r = .46, p < .001$). These findings therefore support the study's expectations.

Hypothesis A2 proposed that a greater tendency to conceal personal and distressing information at therapy intake would be related to greater global distress, depression, and state and trait anxiety at therapy termination. Inconsistent with expectations, however, Table 1 shows that no significant relationship was found between intake self-concealment (SCS 1) and termination global distress (GSI 2), depression (BDI 2), state anxiety (STAI-S 2) and trait anxiety (STAI-T 2) ($p > .05$).

Hypothesis A4 proposed an inverse relationship between higher levels of self-concealment at intake and reduction in global distress, depression, and state and trait anxiety from pre- to post- therapy. However, Table 1 shows that a greater tendency to conceal personal and distressing information at intake (SCS 1) was not found to be linked to reduction in any of the distress measures (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG) from pre- to post-therapy ($p > .01$). These results are contrary to the study's expectations.

In addition, hypothesis A4 proposed that lower levels of intake self-concealment would be related to a clinically significant reduction in global distress from pre- to post-therapy. However, Table 3 shows that a link between intake self-concealment and clinically significant reduction in global distress was not found ($r = .16$, ns).

Associations among intake self-concealment and therapist ratings. Hypothesis A5 proposed that lower levels of self-concealment at therapy intake would be related to therapist ratings of client improvement from pre- to post- therapy. Contrary to

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expectations, however, Table 1 shows that no significant relationship was found between intake SCS scores and therapist ratings of client improvement from pre- to post- therapy.

This study additionally investigated associations between psychological distress and therapist rating of client improvement. No significant relationship was found between any of the distress measures and therapist rating of client improvement at therapy termination. This finding supports the idea of a lack of cohesion between therapist and client ratings of therapy outcome (Dickerson & Coyne, 1987; Lebow, 1983).

Associations among intake self-concealment and duration of therapy. Hypothesis A3 proposed that higher levels of intake self-concealment would be directly related to premature termination from therapy. However, an association between intake self-concealment (SCS 1) and premature termination from therapy was not found ($r = .03$, ns). These findings are inconsistent with expectations and suggest that a greater tendency to self-conceal personally distressing information is not linked to premature termination from therapy. Furthermore, among clients who attended eight or more therapy sessions, intake self-concealment was not linked to duration of therapy.

Results Concerning Questions of Study

Change in self-concealment from pre- to post-therapy. To date, research has not investigated whether clients' tendencies to conceal personal and distressing information changes from pre- to post- therapy. Therefore, the objective of Question B1 was to examine whether self-concealment changed from intake to termination and, if so, in what direction this change occurred. Results of this study found that clients' total self-concealment scores reduced, on average, by 3.25 points (out of a possible 40 points) (*SD* = 8.56) from therapy intake to termination. Table 2 shows that, among continuer

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participants (i.e. participants that attended eight or more therapy sessions), SCS scores reduced on average by 3.29 points ($SD = 8.94$) from intake to termination. This reduction in clients' tendencies to conceal personally distressing information from pre- to post-therapy was significant. These results suggest that the tendency to engage in self-concealing behavior does tend to reduce during therapy.

Associations between change in self-concealment and change in psychological distress from pre- to post- therapy. Question B2 asked whether there were associations between global distress, depression, state anxiety, trait anxiety, and change in self-concealment from pre- to post- therapy. Table 1 shows that reduction in SCS from pre- to post-therapy was positively linked to reduction in all distress scores (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG) from pre- to post- therapy ($p < .001$). Self-concealment reduction (SCS CHNG) also was negatively linked to termination trait anxiety (STAI-T 2) ($r = -.38, p < .001$). However, self-concealment reduction was not found to be linked to termination global distress, depression, or state anxiety nor to any of the intake distress scores ($p > .01$). Table 3 additionally shows that reduction in SCS (SCS CHNG) was positively linked to a clinically significant reduction in global distress (GSI) from pre- to post- therapy ($r = .31, p < .01$). Taken together, these findings suggest that the ability to become less concealing of one's personally distressing information from pre- to post- therapy is linked to reductions in global distress, depression, state and trait anxiety, as well as clinically meaningful reductions in global distress.

Associations among self-concealment and demographic variables. The objective of Question C was to examine the relationship between self-concealment and various demographic client variables, including gender, religion, marital status, socioeconomic

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status, parents' country of birth, university program, and client-reported problem areas at intake. Examination of these associations serves as a preliminary investigation assessing whether self-concealment varies among people who differ on these factors.

Associations among self-concealment, psychological distress, and gender. Gender differences in intake self-concealment, termination self-concealment, and self-concealment reduction were not found based on two-tailed *t*-test analyses ($p > .10$). In addition, Table 1 shows that duration of therapy, therapist ratings of client change from pre- to post- therapy, and global distress (GSI), depression (BDI) state anxiety (STAI-S), and trait anxiety (STAI-T) at intake, termination, and from pre- to post- therapy were not found to be differentiated by gender. These findings support previous studies (e.g., Ichiyama et al., 1993; Larson & Chastain, 1990; Lopez, 2001; Kelly & Achter, 1995; Ritz & Dahme, 1996) that failed to find a relationship between gender and psychological distress at different phases in therapy.

Associations among self-concealment and client-reported problems. Regarding the link between self-concealment and client-reported problems at therapy intake, the tendency to conceal personal and distressing information at intake was positively associated with number of client-reported problem areas at intake ($r = .23, p < .01$).

Differences in self-concealment based on demographic variables. SCS scores at therapy intake (SCS 1) differed by clients' marital status (i.e. single, involved in a heterosexual relationship, involved in a gay or lesbian relationship, married or co-habitating, separated or divorced) ($F(4, 394) = 3.517, p < .05$). In particular, single clients reported a greater tendency to conceal personal and distressing information (SCS = 30.29, $SD = 8.87$, $N = 241$) at therapy intake than clients involved in gay or lesbian relationships

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(SCS = 19.00, SD = 8.80, N = 5) (mean difference = 11.29, $p < .05$). However, intake SCS was not found to be differentiated by clients' age, religion, university program or year, type of problem area reported, or their parents' country of origin ($p > .10$).

Multiple Regression Modeling: Testing the Hypotheses and Questions of Study

Results concerning hypotheses. Multivariate, standard, and hierarchical multiple regression analyses were performed to test the proposed hypotheses linking global distress (GSI), depression (BDI), state anxiety (STAI-S), trait anxiety (STAI-T), gender, and duration of therapy with self concealment (SCS).

Hypothesis A1 proposed that higher SCS scores at therapy intake would predict greater global distress at intake after accounting for gender. Results of the multiple regression examining gender and intake self-concealment (SCS 1) scores as predictors of intake global distress (GSI 1) scores are reported in Table 4. Analyses indicated that the regression model was significant in predicting GSI 1 scores ($R^2 = .182$, $F(2, 394) = 43.921$, $p < .001$). Thus, the model accounted for 18.2 percent of the variance in GSI 1 pre-therapy scores. Table 4 also indicates the relative significance of the variables in predicting GSI 1 scores. Importantly, only intake self- concealment (SCS 1) uniquely predicted GSI 1 scores and accounted for 18.2 percent of the variance in GSI 1 scores.

The model examining gender and SCS 1 scores as predictors of intake depression (BDI 1) scores also was significant ($R^2 = .197$, $F(2, 393) = 48.235$, $p < .001$) and is presented in Table 5. Both SCS 1 and gender uniquely predicted 19.5 percent and 1.1 percent, respectively, of the variance in BDI 1 scores. Similarly, Table 6 shows that the model examining gender and SCS 1 scores as predictors of intake state anxiety (STAI-S 1) scores was significant ($R^2 = .126$, $F(2, 394) = 28.363$, $p < .001$). Only SCS 1 uniquely

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Table 4

Summary of Standard Multiple Regression Analysis for Gender and Intake Self-Concealment (SCS 1) Predicting Intake Global Distress (GSI 1) (N = 397)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS 1	.029	.003	.430	9.363***	< .001	.429
Gender	.046	.065	.032	0.706	.480	.001

Note. sr^2 = squared semi-partial correlation; SCS 1 = intake Self-Concealment Scale.

*** $p < .001$.

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Table 5

Summary of Standard Multiple Regression Analysis for Gender and Intake Self-Concealment (SCS 1) Predicting Intake Depression (BDI 1) (N = 396)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS 1	.471	.048	.445	9.781***	< .001	.442
Gender	2.049	.998	.093	2.053*	.041	.093

Note. sr^2 = squared semi-partial correlation; SCS 1 = intake Self-Concealment Scale.

* $p < .05$, *** $p < .001$.

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Table 6

Summary of Standard Multiple Regression Analysis for Gender and Intake Self-Concealment (SCS 1) Predicting Intake State Anxiety (STAI-S 1) (N = 397)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS 1	.463	.061	.357	7.530***	< .001	.355
Gender	.873	1.274	.033	.686	.493	.035

Note. sr^2 = squared semi-partial correlation; SCS 1 = intake Self-Concealment Scale.

*** p < .001.

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predicted 12.5 percent of the variance in STAI-S 1 scores. Lastly, Table 7 shows that the model examining gender and SCS 1 scores as predictors of intake trait anxiety (STAI-T 1) scores was significant ($R^2 = .459$, $F(2, 394) = 52.427$, $p < .001$). Again, only SCS 1 scores uniquely predicted 21.0 percent of the variance in STAI-T 1 scores. These results support the hypothesis that higher levels of self-concealment at intake would uniquely predict greater psychological distress and greater depressive and anxiety symptoms at intake after accounting for client gender.

Hypothesis A2 proposed that a greater tendency to conceal personally distressing information at therapy intake would predict greater global distress, depression, state anxiety, and trait anxiety at therapy termination after accounting for gender, initial distress levels, and duration of therapy. A multivariate multiple regression analysis was performed to test whether the predictors (SCS 1, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) were significantly linked to the predicted set of dependents (GSI 2, BDI 2, STAI-S 2, STAI-T 2). Table 8 shows that only GSI 1, BDI 1, and STAI-T 1 were uniquely related to the predicted set of dependents ($p < .05$). Contrary to the hypothesis, intake self-concealment (SCS 1) was not found to be uniquely related to the set of dependents ($p = .72$). In addition, intake state anxiety (STAI-S 1), gender, and duration of therapy were not found to be associated with the set of dependents ($p > .10$). Analysis of each of the regression models indicated that the set of predictors (SCS 1, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) significantly predicted GSI 2 scores ($R^2 = .218$, $F(7, 64) = 2.550$, $p = .022$) BDI 2 scores ($R^2 = .364$, $F(7, 64) = 5.223$, $p < .001$), STAI-S 2 scores ($R^2 = .216$, $F(7, 64) = 2.517$, $p = .024$) and STAI-T 2 scores ($R^2 = .286$, $F(7, 64) = 3.668$, $p = .002$). However, intake self-concealment (SCS 1) was not

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Table 7

Summary of Standard Multiple Regression Analysis for Gender and Intake Self-Concealment (SCS 1) Predicting Intake Trait Anxiety (STAI-T 1) (N = 397)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS 1	.555	.054	.461	10.221***	< .001	.458
Gender	.594	1.126	.024	.527	.598	.027

Note. sr^2 = squared semi-partial correlation; SCS 1 = intake Self-Concealment Scale.

*** p < .001.

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Table 8

Summary of Multivariate Regression Analysis for Predictors of All Termination Distress Scores (GSI 2, BDI 2, STAI-S 2, STAI-T 2) among Participants who Attended Eight or More Therapy Sessions (N = 72)

Predictor	*F*	*df*	*p*	Eta^2
SCS 1	.516	4	.724	.033
GSI 1	2.588*	4	.046	.145
BDI 1	5.178**	4	.001	.253
STAI-S 1	1.552	4	.199	.092
STAI-T 1	3.930**	4	.007	.205
GENDER	.974	4	.429	.060
ATTEND	2.179	4	.082	.125

Note: Significance of multivariate test based on Wilk's Lambda.
SCS 1 = intake Self-Concealment Scale; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
* $p < .05$, ** $p < .01$.

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found to be uniquely related to any of the distress scores at termination ($p > .10$). This was inconsistent with the study's expectations. Only intake trait anxiety (STAI-T 1) was uniquely linked to termination global distress (GSI 2) scores, intake depression (BDI 1) and duration of therapy were uniquely linked to termination depression (BDI 2) scores, and intake trait anxiety (STAI-T 1) was uniquely linked to termination trait anxiety (STAI-T 2) scores ($p < .05$). None of the predictors were uniquely linked to termination state anxiety (STAI-S 2) scores ($p > .10$). Taken together, the findings suggest that clients' tendencies to conceal personal and distressing information at intake of therapy is not uniquely linked to global distress, depression, state anxiety, or trait anxiety at therapy termination.

Hypothesis A3 proposed that higher levels of intake self-concealment would predict premature termination from therapy after accounting for gender and initial global distress level. Results of the multiple regression indicated that the model was not significant ($p = .23$). Thus, contrary to this study's expectations, SCS 1 scores did not uniquely predict premature termination from therapy.

Hypothesis A4 proposed that lower levels of self-concealment at therapy intake would predict statistically significant reductions in global distress, depression, state anxiety, and trait anxiety from pre- to post- therapy after accounting for gender, initial distress levels and duration of therapy. A multivariate multiple regression analysis was performed to test whether the set of predictors (SCS 1, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) was significantly linked to the predicted dependents (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG). Table 9 shows that only GSI 1, BDI 1, STAI-S 1 and STAI-T 1 were uniquely related to the predicted set of dependents

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Table 9

Summary of Multivariate Regression Analysis for Predictors of All Distress Score Reductions (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG) among Participants who Attended Eight or More Therapy Sessions (N = 72)

Predictor	*F*	*Df*	*p*	Eta^2
SCS 1	.516	4	.724	.033
GSI 1	27.388***	4	< .001	.642
BDI 1	11.883***	4	< .001	.438
STAI-S 1	13.935***	4	< .001	.477
STAI-T 1	11.233**	4	.001	.424
GENDER	.974	4	.429	.060
ATTEND	2.179	4	.082	.125

Note: Significance of multivariate test based on Wilk's Lambda.
SCS 1 = intake Self-Concealment Scale; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
* $p < .05$, ** $p < .01$, *** $p < .001$.

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($p < .01$). Contrary to the hypothesis, intake self-concealment (SCS 1) was not found to be uniquely related to the set of dependents ($p = .72$). Gender and duration of therapy also were not found to be associated with the set of dependents ($p > .10$). Analysis of the regression models indicated that, although each model of the set of predictors (SCS 1, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) was significant in predicting GSI CHNG scores ($R^2 = .599$, $F(7, 64) = 13.634$, $p < .001$) BDI CHNG scores ($R^2 = .521$, $F(7, 64) = 9.955$, $p < .001$), STAI-S CHNG scores ($R^2 = .400$, $F(7, 64) = 6.091$, $p < .001$) and STAI-T CHNG scores ($R^2 = .322$, $F(7, 64) = 4.344$, $p = .001$), intake self-concealment (SCS 1) was not found to be uniquely related to any of the distress scores at termination ($p > .10$). This was inconsistent with the study's expectations. Only intake global distress (GSI 1) and intake trait anxiety (STAI-T 1) were uniquely linked to GSI CHNG scores, intake depression (BDI 1) and duration of therapy were uniquely linked to BDI CHNG scores, intake state anxiety (STAI-S 1) was uniquely linked to STAI-S CHNG scores, and intake trait anxiety (STAI-T 1) was uniquely linked to STAI-T CHNG scores ($p < .05$). These findings suggest that clients' general tendency to conceal personally distressing information at therapy intake is not uniquely linked to reduction in global distress, depression, and state and trait anxiety from pre- to post-therapy.

Hypothesis A4 also proposed that lower levels of self-concealment at therapy intake would predict a clinically significant reduction in global distress from pre- to post-therapy,after accounting for client gender, initial distress level, and duration of treatment. Although the regression model examining intake SCS 1, BDI 1, STAI-S 1, STAI-T 1, gender, and duration of therapy as predictors of a clinically significant reduction in global

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distress (GSI) was significant ($R^2 = .210$, $F(6, 54) = 2.396$, $p < .05$), neither SCS 1 scores nor any of the other predictor variables uniquely predicted any variance in clinically significant GSI reduction from pre- to post- therapy ($p > .10$).

Lastly, hypothesis A5 proposed that lower levels of self-concealment at therapy intake would predict therapist ratings of client improvement from pre- to post-therapy. Results of the multiple regression examining intake SCS 1 and GSI 1 as predictors of therapist ratings of client improvement indicated that the model was not significant ($p = .091$). Thus, contrary to expectations, intake SCS 1 scores did not uniquely predict therapist ratings of client improvement from pre- to post- therapy after accounting for initial distress level.

Results concerning questions of study. Given the significant intercorrelations between reduction in global distress, depression, state anxiety, trait anxiety and SCS scores from pre- to post- therapy, the objective of Question B2 was to examine whether SCS reduction uniquely predicted reduction in global distress, depression, and state and trait anxiety from pre- to post- therapy, after accounting for gender, initial distress levels, and therapy duration.

A multivariate multiple regression analysis was performed to test whether the set of predictors (SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) was significantly linked to the predicted set of dependents (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG). Table 10 shows that SCS CHNG, GSI 1, BDI 1, STAI-S 1, and STAI-T 1 each were uniquely related to the predicted set of dependents. More specifically, SCS CHNG was uniquely associated with all of the dependents, GSI 1 was uniquely associated with GSI CHNG, BDI 1 was uniquely related to BDI CHNG, STAI-

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Table 10

Summary of Multivariate Regression Analysis for the Set of Predictors of All Distress Score Reductions (GSI CHNG, BDI CHNG, STAI-S CHNG, STAI-T CHNG) among Participants who Attended Eight or More Therapy Sessions (N = 72)

Predictor	*F*	*df*	Significance	Eta^2
SCS CHNG	4.825**	4	.002	.240
GSI 1	26.978***	4	< .001	.639
BDI 1	11.775***	4	< .001	.436
STAI-S 1	13.968***	4	< .001	.478
STAI-T 1	12.322***	4	< .001	.447
GENDER	1.218	4	.313	.074
ATTEND	1.752	4	.150	.103

Note: Significance of multivariate test based on Wilk's Lambda.
SCS 1 = intake Self-Concealment Scale; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
** $p < .01$, *** $p < .001$.

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S 1 was uniquely linked to STAI-S CHNG, and STAI-T 1 was uniquely linked to STAI-T CHNG ($p < .01$). Although attendance and gender were not found to be uniquely associated with the set of dependents ($p > .10$), attendance was uniquely related to BDI CHNG ($p < .05$).

Table 11 presents the regression models for each of the dependent variables. Analysis indicated that the model of the set of predictors (SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, gender, therapy duration) was significant in predicting GSI CHNG scores ($R^2 = .642$, $F(7, 64) = 16.388$, $p < .001$) and accounted for 64.2 percent of the variance in GSI CHNG scores. The model also was significant in predicting BDI CHNG scores ($R^2 = .566$, $F(7, 64) = 11.937$, $p < .001$) and accounted for 56.6 percent of the variance in BDI CHNG scores. Similarly, the model predicting STAI-S CHNG scores was significant ($R^2 = .481$, $F(7, 64) = 8.486$, $p < .001$) and accounted for 48.1 percent of the variance in STAI-S CHNG scores. Lastly, the model predicting STAI-T CHNG scores was significant ($R^2 = .475$, $F(7, 64) = 8.280$, $p < .001$) and accounted for 47.5 percent of the variance in STAI-T CHNG scores.

Given the high degree of intercorrelation between intake distress scores and their respective change scores from pre- to post- therapy (bivariate correlations ranged from .58 to .77), it was of interest to understand the degree to which change scores could be predicted by other independent variables after the effect of their intake distress scores had been removed. Consequently, hierarchical univariate multiple regression analyses were performed to determine whether SCS CHNG significantly predicted reduction of each distress score after controlling for the respective intake distress score.

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Table 11

Summary of Multivariate Multiple Regression Models Predicting Reduction in Distress Scores Among Participants who Attended Eight or More Therapy Sessions (N = 72)

Dependent Variable	Predictors	*df*	*F*	*p*	Eta^2
GSI CHNG	SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, GENDER, ATTEND	7	16.388***	<.001	.642
BDI CHNG	SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, GENDER, ATTEND	7	11.937***	<.001	.566
STAI-S CHNG	SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, GENDER, ATTEND	7	8.486***	<.001	.481
STAI-T CHNG	SCS CHNG, GSI 1, BDI 1, STAI-S 1, STAI-T 1, GENDER, ATTEND	7	8.280***	<.001	.475

Note. SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
*** $p < .001$.

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For the regression model predicting reduction in global distress (GSI CHNG), intake global distress (GSI 1) was covaried out of the equation and the remaining predictors (SCS CHNG, BDI 1, STAI-S 1, STAI-T 1, gender, duration of therapy) were entered into the model as a set. Results of this hierarchical multiple regression are presented in Table 12. Analysis indicated that, after covarying out intake global distress (GSI 1), the regression model was significant in predicting GSI CHNG ($R^2 = .225$, F (6,65) = 3.148, $p = .009$) and accounted for 22.5 percent of the variance in GSI CHNG. Table 12 also indicates the relative significance of the variables in predicting GSI CHNG scores after covarying out the contribution of intake global distress (GSI 1). Only self-concealment reduction (SCS CHNG) uniquely accounted for 14.9 percent of the variance in GSI CHNG scores. This finding supports the study's expectations that reduction in self-concealment would uniquely predict reduction in distress from pre- to post- therapy.

For the regression model predicting reduction in depression (BDI CHNG), intake depression (BDI 1) was covaried out of the equation and the remaining predictors (SCS CHNG, GSI 1, STAI-S 1, STAI-T 1, gender, duration of therapy) were entered into the model as a set. Results of this hierarchical multiple regression are presented in Table 13. Analysis indicated that after covarying out intake depression (BDI 1), the regression model was significant in predicting BDI CHNG ($R^2 = .279$, F (6, 65) = 4.187, $p = .001$) and accounted for 27.9 percent of the variance in BDI CHNG. Table 13 also indicates the relative significance of the variables in predicting BDI CHNG scores after covarying out the contribution of intake depression (BDI 1). Self-concealment reduction (SCS CHNG) uniquely accounted for the most variance in BDI CHNG scores (12.1 percent), followed by duration of therapy (8.8 percent).

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Table 12

Summary of Hierarchical Multiple Regression Analysis for Predictors of Reduction in Global Distress (GSI CHNG) After Covarying Out Intake Global Distress (GSI 1) among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS CHNG	.019	.006	.382	3.369**	.001	.121
BDI 1	-.005	.010	-.065	- .498	.620	.0006
STAI-S 1	.001	.006	.037	.232	.817	.0008
STAI-T 1	-.010	.007	-.240	- 1.348	.182	.037
GENDER	-.141	.113	-.137	-.199	.843	.023
ATTEND	-.005	.005	-.124	- 1.133	.261	.019

Note. sr^2 = squared semi-partial correlation; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
** $p < .01$.

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Table 13

Summary of Hierarchical Multiple Regression Analysis for Predictors of Reduction in Depression (BDI CHNG) After Covarying Out Intake Depression (BDI 1) Over the Course of Therapy among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS CHNG	.235	.079	.331	2.989**	.004	.121
GSI 1	2.854	1.886	.265	1.513	.135	.025
STAI-S 1	-.0006	.091	-.001	-.007	.994	<.0001
STAI-T 1	-.170	.097	-.282	- 1.757	.084	.034
GENDER	-2.358	1.580	-.158	- 1.492	.140	.025
ATTEND	-.167	.067	-.265	- 2.511*	.015	.088

Note. sr^2 = squared semi-partial correlation; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
*$p < .05$, ** $p < .01$.

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For the regression model predicting reduction in state anxiety (STAI-S CHNG), intake state anxiety (STAI-S 1) was covaried out of the equation and the remaining predictors (SCS CHNG, GSI 1, BDI 1, STAI-T 1, gender, duration of therapy) were entered into the model as a set. Results of this hierarchical multiple regression are presented in Table 14. Analysis indicated that, after covarying out intake state anxiety (STAI-S 1), the regression model was significant in predicting STAI-S CHNG (R^2 = .221, F (6,65) = 3.067, p = .011) and accounted for 22.1 percent of the variance in STAI-S CHNG. Table 14 also indicates the relative significance of the variables in predicting STAI-S CHNG scores after covarying out the contribution of intake state anxiety (STAI-S 1). Importantly, only self-concealment reduction (SCS CHNG) uniquely accounted for 14.4 percent of the variance in STAI-S CHNG scores.

For the regression model predicting reduction in trait anxiety (STAI-T CHNG) from pre- to post-therapy, intake trait anxiety (STAI-T 1) was covaried out of the equation and the remaining predictors (SCS CHNG, GSI 1, BDI 1, STAI-S 1, gender, duration of therapy) were entered into the model as a set. Results of this hierarchical multiple regression are presented in Table 15. Analysis indicated that after covarying out intake trait anxiety (STAI-T 1), the regression model was significant in predicting STAI-T CHNG (R^2 = .276, F (6,65) = 4.121, p = .001) and accounted for 27.6 percent of the variance in STAI-T CHNG. Table 15 also indicates the relative significance of the variables in predicting STAI-T CHNG scores after covarying out the contribution of intake trait anxiety (STAI-T 1). Again, only self-concealment reduction (SCS CHNG) uniquely accounted for 24.3 percent of the variance in STAI-T CHNG scores.

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Table 14

Summary of Hierarchical Multiple Regression Analysis for Predictors of Reduction in State Anxiety (STAI-S CHNG) After Covarying Out Intake State Anxiety (STAI-S 1) Over the Course of Therapy among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS CHNG	.436	.132	.385	3.316**	.001	.144
GSI 1	3.901	2.983	.227	1.308	.196	.020
BDI 1	-.340	.225	-.280	- 1.513	.135	.028
STAI-T 1	-.010	.179	-.101	- .541	.590	.003
GENDER	.405	2.613	.017	.155	.877	.0002
ATTEND	-.122	.110	-.101	- .541	.590	.015

Note. sr^2 = squared semi-partial correlation; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
** $p < .01$.

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Table 15

Summary of Hierarchical Multiple Regression Analysis for Predictors of Reduction in Trait Anxiety (STAI-T CHNG) After Covarying Out Intake Trait Anxiety (STAI-T 1) Over the Course of Therapy among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCS CHNG	.506	.111	.505	4.571***	< .001	.243
GSI 1	1.411	2.579	.093	.547	.586	.005
BDI 1	-.094	.175	-.088	- .539	.592	.004
STAI-S 1	-.075	.131	-.093	- .577	.566	.005
GENDER	-.745	2.225	-.036	- .335	.739	.002
ATTEND	-.096	.094	-.108	-1.016	.314	.016

Note. sr^2 = squared semi-partial correlation; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; ATTEND = number of sessions attended.
*** $p < .001$.

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Taken together, these findings indicate that reduction in clients' tendency to conceal personally distressing information from pre- to post-therapy uniquely predicts reduction in global distress, depression, state anxiety, and trait anxiety after accounting for clients' initial distress level and duration of therapy.

Lastly, given the significant association between self-concealment reduction and a clinically significant reduction in global distress from pre- to post-therapy, a multiple regression analysis was performed to investigate whether SCS reduction uniquely predicted a clinically significant reduction in global distress (GSI) after accounting for intake global distress (GSI 1) depression (BDI 1), state anxiety (STAI-S 1), trait anxiety (STAI-T 1), gender, and duration of therapy. Analysis indicated that the regression model was significant in predicting a clinically significant reduction in global distress (GSI) from intake to termination of therapy ($R^2 = .229$, $F(7, 62) = 2.625$, $p = .019$). Although only intake global distress uniquely accounted for 9.8 percent of the variance in clinically significant GSI score reduction, the unique relationship between reduction in SCS and clinically significant reduction in global distress approached significance ($p = .07$).

Post-hoc Analyses

Eight participants reported, on average, a GSI score reduction of 0.71 ($SD = 0.28$) yet failed to meet Tingey et al.'s (1996) first criterion for clinical significance (i.e. post-therapy GSI scores did not fall within a more functional sample than pre-therapy GSI scores) because their intake GSI scores were so high. Given that intake GSI scores within the severely symptomatic group ranged from 1.00 to 2.78, post-hoc analyses were conducted to test whether the severely symptomatic group could be divided into two separate groups, namely a "severe " group and a "very severe" group. A median split

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divided the severely symptomatic group into two new groups, "severe" (GSI scores ranged from 1.00 and 1.54) and "very severe" (GSI scores ranged from 1.55 to 2.78). A two-tailed *t*-test analysis revealed that higher intake GSI scores were reported in the "very severe" group than in "severe" group (t (48) = 10.392, $p < .001$). Thus, the two groups appeared to be distinct.

Based on this finding, analyses examined whether participants whose GSI scores moved from the "very severe" to "severe" group from pre- to post-therapy met criteria for clinical significance and, if so, whether reduction in self-concealment uniquely predicted clinical significant improvement in global distress.

All eight participants reported intake GSI scores that fell within the "very severe" group (mean GSI 1 score = 1.94, SD = 0.22) and termination GSI scores that fell within the more functional "severe" group (mean GSI 2 score = 1.24, SD = 0.19). These participants therefore met the first criterion for clinical significance. In order to ensure that the difference between these participants' pre- and post-therapy GSI scores was large enough to be considered reliable, the reliability change index (RCI) was calculated to see if it was greater than 1.96 since this was the criterion used by Tingey et al (1996). Results indicated that this was the case. A minimum difference score of 0.60 between pre- and post-therapy GSI was used as the cutoff, which was more stringent than Tingey et al's (1996) cut-off scores. Of the eight participants, four met this second criterion for clinical significance. Consequently, these participants were included in the clinically significant improved group, resulting in 40 participants whose improvement reached clinical significance and 32 participants whose improvement did not reach clinical significance.

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Following these changes to clinical significance, post-hoc multiple regression analysis was performed to investigate whether reduction in SCS uniquely predicted clinically significant reduction in global distress (GSI) after accounting for intake global distress (GSI 1), depression (BDI 1), state anxiety (STAI-S 1), trait anxiety (STAI-T 1), gender, and duration of therapy. Results of this analysis are presented in Table 16. Analysis indicated that the regression model was significant in predicting a clinically significant reduction in global distress (GSI) from pre- to post-therapy (R^2 =.395, $F(7, 64) = 5.973, p < .001$) and accounted for 39.5 percent of the variance in clinically significant GSI reduction. Reduction in self-concealment (SCS CHNG) from pre- to post-therapy uniquely predicted 6.1 percent of the variance in clinically significant GSI score reduction. Intake global depression (GSI 1) predicted the most variance (19.9 percent) in clinically significant GSI reduction, followed by intake trait anxiety (STAI-T 1, 9.1 percent), and gender (7.7 percent). Thus, when Tingey et al.'s (1996) original severely symptomatic group was divided into two separate "severe" and "very severe" groups, and when the clinical significance criterion was altered to include clients whose GSI scores moved from the "very severe" to "severe" group with a GSI score difference exceeding 0.60, reduction in SCS scores was uniquely linked to a clinically significant reduction in global distress from pre- to post- therapy. Furthermore, being male, reporting greater intake global distress, and reporting less intake trait anxiety each uniquely predicted clinically significant reductions in global distress.

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Table 16.

Summary of Post-hoc Standard Multiple Regression Analysis for Predictors of Clinically Significant Reduction in Global Distress Over the Course of Therapy among Participants who Attended Eight or More Therapy Sessions (N = 72)

Variable	*B*	*SE* β	β	*t*-value	*p*	sr^2
SCSCHNG	.012	.006	.211	2.043*	.045	.061
GSI 1	.557	.140	.657	3.982***	<.001	.199
BDI 1	-.002	.010	-.043	-.252	.802	.001
STAI-S 1	.006	.007	.128	.854	.396	.011
STAII-T 1	-.020	.008	-.425	- 2.537*	.014	.091
SEX	-.266	.115	-.227	- 2.318*	.024	.077
ATTEND	-.004	.005	-.075	- .770	.444	.009

Note. sr^2 = squared semi-partial correlation; SCS CHNG = change in Self-Concealment Scale from pre- to post-therapy; GSI 1 = intake Global Severity Index; BDI 1 = intake Beck Depression Inventory; STAI-S 1 = intake State Anxiety Inventory; STAI-T 1 = intake Trait Anxiety Inventory; ATTEND = number of sessions attended.
* $p < .05$, *** $p < .001$.

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CHAPTER IV

DISCUSSION

Self-concealment, the tendency to actively conceal distressing or negative personal information from others, is a relatively recent construct in the psychological literature. Researchers are beginning to examine self-concealment to gain a fuller understanding of it's mechanisms, role, and consequences. Currently under investigation is the relationship of self-concealment to a variety of factors, including physical health, psychological well-being, identity development, social support and self-presentational concerns. Researchers also are beginning to examine associations between self-concealment, willingness to participate in therapy, progress during therapy, and therapy outcome. The present study was undertaken to further our understanding of self-concealment by exploring the relationship between self-concealment and psychological distress, and between change in these variables over the course of psychotherapy. General self-concealment tendencies and levels of distress in a sample of university students undergoing psychotherapy were assessed at the beginning and end of therapy. The relationship between self-concealment and demographic variables was also examined. Participants' self-concealment tendencies and levels of general distress, depression, state anxiety and trait anxiety reduced from pre- to post-therapy, and interesting relationships among them were found.

Associations with Intake Self-Concealment

The present study found that participants who reported a greater tendency to conceal personal and distressing information prior to commencing therapy also reported greater global distress, depression, state anxiety, and trait anxiety at intake. Furthermore,

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greater intake self-concealment was positively associated with a greater number of client-reported problem areas at intake. These findings are consistent with previous studies that found positive associations between self-concealment and depressive and anxiety symptoms (Derosa, 2000; Ichiyama et al., 1993; Kahn & Hessling, 2001; Kelly & Achter, 1995; Larson & Chastain, 1990; Pennebaker et al., 1988; Vrij et al., 2002). The present findings also support the assertion that self-concealment is experienced as a behavioral, physiological, cognitive and emotional burden (Lane & Wegner, 1994).

The link between self-concealment and psychological distress often is viewed as indirect evidence supporting the assertion that self-concealment contributes to psychological distress. Researchers claim that self-concealment engenders active behavioral inhibition of personal thoughts, feelings, and interactions that results in cognitive, emotional, and physiological repercussions (Derlega et al., 1993; Pennebaker & Beall, 1986; Pennebaker & O'Heeron, 1984). For example, it has been argued that self-concealment, by virtue of suppressing personally distressing information, makes this information hyperaccessible and contributes to obsessive preoccupations and intrusive thoughts of the concealed information (King et al., 1992; Smart & Wegner, 1999). Self-concealment also prevents opportunities to receive feedback, thus inhibiting the chance to gain a different perspective or to engage in reality testing (Bok, 1982). Accordingly, self-concealment is thought to create self-perception impairments (Fishbein & Laird, 1979), negative self-evaluations, and lowered self-worth (Derlega et al., 1993).

However, it is possible that the relationship between self-concealment and psychological distress is bi-directional. That is, high levels of distress might promote concealment of personally distressing information. For example, if individuals are placed

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in conditions of extreme distress, such conditions might increase the propensity to conceal personally distressing information. Stiles et al. (1992) assert that when individuals are confronted with distressing experiences, their difficulties can become so salient and persistent that they become preoccupied with their problems and remain trapped in their internal frame of reference, thereby promoting self-concealment. Moreover, their difficulties often are embarrassing, which can trigger self-concealment in order to avoid negative evaluations (Schwartz et al., 1986).

In summary, the present study's findings support previous research linking self-concealment with psychological distress at the same time interval. Future studies should test proposed mechanisms linking these two constructs, and explore the possibility of a bi-directional influence between self-concealment and psychological distress.

The present study additionally found that participants who reported a greater tendency to conceal personal and distressing information at therapy intake also tended to report a greater self-concealment tendency at therapy termination. This finding offers support for the assertion that self-concealment is a personality trait characterized by a general predisposition to withhold information from others regardless of the situational context (e.g., Larson & Chastain, 1990; Pennebaker, 1989). The present finding also is consistent with previous findings that clients approach and participate in therapy with a habitual level of concealing and revealing information (Halpern, 1977).

In particular, the present finding fits with self-presentational theories that assert that high self-concealers are more likely to withhold personal information of a negative valence regardless of context or situation (Ichiyama et al., 1993; Larson & Chastain, 1990; Stiles, 1987) due to their heightened concern about possible negative consequences

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of disclosure on their self-image (Kelly & McKillop, 1996; Leary & Kowalski, 1990). Concerns of self-debasement might explain why clients who reported greater self-concealment at therapy intake also reported greater self-concealment at termination. Future studies should examine this idea.

Contrary to the present study's expectations, we failed to find significant associations between intake self-concealment and premature termination from therapy, termination distress levels, or reduction in distress. Furthermore, power analyses suggest that, given the low correlations between intake self-concealment and premature termination from therapy, termination distress, and reduction in distress, ($r < .31$, ns), such associations are unlikely to be found even with a larger sample and less variability.

The inability to find these relationships may be explained by methodological limitations. Although intake self-concealment was not found to be linked to termination distress or to distress reduction, the SCS did not assess concealment specifically in therapy. Perhaps withholding information from therapists at intake, rather than a general self-concealment predisposition, is linked to termination distress and to distress reduction. Alternatively, our inability to find a link between intake self-concealment and change in distress might further be attributed to intercollinearity between each intake distress score with their respective change score (bivariate correlations ranged from .52 to .77). In addition, use of a non-validated single-item measure to assess therapist rating of client change, along with a low sample size ($N = 27$), might account for our inability to find a link between participants' SCS scores and therapist rating of participant change. However, conceptual difficulties also might explain this non-significant finding. Perhaps

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therapists do not know whether clients are concealing information and, thus, do not rely on client disclosure patterns to evaluate their progress (Hill et al., 1993; Kelly, 1998).

Lastly, our non-significant findings might indicate that associations with intake self-concealment are more complex than we anticipated. For example, although self-concealment has been linked to negative attitudes toward therapy and with needing but not seeking therapy (Cepeda-Benito & Short, 1998), we failed to find a link between intake self-concealment and premature termination from therapy. This suggests that self-concealment is not associated with termination patterns once participants have made a conscious choice to attend therapy despite their tendency to withhold personal information. Future studies should investigate this idea.

In summary, the non-significant relationships with intake self-concealment should be re-evaluated with methodological and conceptual refinements to clarify whether clients' self-concealment tendencies prior to commencing therapy influence therapy outcome.

Change in Self-Concealment from Pre- to Post-Therapy

A new finding in the self-concealment literature was that participants' self-concealment tendencies reduced from pre- to post-therapy. This finding fits with assertions held by social psychology and psychotherapy researchers that the tendency to withhold personal information reduces as a relationship develops, and in particular, as therapy progresses. According to dialectics theory, the onset of therapy is analogous to the beginning of a relationship. Individuals experience a distress-disclosure dilemma (Coates & Winston, 1987) in which they desire to reveal personal information to promote openness and experience support (Baxter, 1988; Rawlings, 1992) but are concerned of

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potential risks such as being misunderstood, ridiculed, or judged (Harris, Dersch, & Mittal, 1999). This concern is particularly salient in therapy. Most clients want their therapists to like them and initially are cautious in terms of what they reveal and how they present themselves to their therapist (Hill et al., 2000; Kelly et al., 1996). Consequently, individuals are more apt to withhold information at the beginning of therapy since the risks of revealing appear greater than the potential rewards (Omarzu, 2000). As the therapeutic relationship progresses, however, the relative salience of concealment versus revelation is thought to shift. Clients test their therapist's response to their confidences by inadvertently introducing the issue or discussing a related but less meaningful issue (Duck, 1988). If these minor revelations are met with a positive response, such as support, acceptance, and empathy, the subjective utility of revealing overpowers the subjective risks (Omarzu, 2000). Clients are presumed to reduce concealing and to begin revealing more personally threatening information (Hill et al., 2000; Tschuschke & Dies, 1997). Similarly, social penetration theory asserts that as a supportive relationship develops, such as in therapeutic setting, individuals begin to reveal information that is greater in depth, breadth, and intimacy, including negative content (Altman & Taylor, 1973; Prisbell & Dallinger, 1991). In addition, Omarzu's (2000) distress disclosure model postulates that therapy increases the salience of reducing self-concealment by offering rewards for client revelation, such as emotional relief, loss of a burden from maintaining a secret, and provision of support. Therefore, clients' decisions to conceal less information are thought to be influenced by the nature of the relationship, the response of the listener, and potential rewards gained from revealing the information.

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The present finding regarding self-concealment reduction also fits with psychotherapy premises that factors specific to therapy can reduce self-concealment over the course of therapy. For example, clients' intense distress levels at therapy intake are thought to motivate reduction in withholding of personally distressing information in order to experience psychological relief. Indeed, Hill et al. (2000) assert that, despite initial levels of self-concealment, clients' desires to be helped with their troubling feelings, thoughts, and behaviors increasingly motivate them to become less concealing so that therapy is of value.

Factors unique to psychotherapy also are claimed to influence reduction in self-concealment. A hallmark of psychotherapy is the assurance of confidentiality (Appelbaum et al., 1984), which was found to be the most important factor guiding individuals' decisions to reveal previously concealed personal information (Kelly & McKillop, 1996; Kelly et al., 2001). When clients trust their therapist not to reveal their personal confidences, openness and honesty is promoted and clients are more willing to respond to personal inquiries (Beatson & Lancaster, 1993; Levine, Stoltz, & Lacks, 1983; Stiles et al., 1992). Indeed, studies have found that assurance of confidentiality of information led to individuals' decisions to reveal previously withheld information (Kelly, von Weiss, & Kenny, 1996) and to greater revelations of private information (Corcoran, 1988; Woods & McNamara, 1980).

In addition, it has been asserted that therapist characteristics can reduce clients' self-concealing tendencies (Ackerman & Hilsenroth, 2003; Chambless & Hollon, 1998; Trant, 1990). Clients are more likely to reduce withholding distressing information from their therapist if their therapist exudes understanding, empathy, warmth, insight, and

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acceptance (Coates & Winston, 1987; Kennedy et al, 1990; Rogers, 1957). The assertion that therapist disclosure reduces client self-concealment and promotes revelation of personal information (Jourard, 1971) is consistent with findings that clients' perceptions of therapist openness and facilitativeness predicted clients' personal and distressing confidences (Saketopoulou, 1999; Truax & Carkhuff, 1967; Tschuschke & Dies, 1997). Lastly, the therapeutic relationship in which client and therapist collaboratively work together is claimed to promote meaningful dialogue and genuineness (Paulson et al., 1999), thereby reducing clients' self-concealing tendencies (Coates & Winston, 1987).

Certain therapeutic techniques also are proposed to reduce self-concealment. Vondracek (1969) found that therapist probing was associated with greater amounts of personal information revealed by clients. Ackerman and Hilsenroth's (2003) review of positive therapist techniques found that therapist exploration, affirmation, accurate interpretation, facilitation of emotional expression, and attendance to clients' experiences were linked to client willingness to reveal distressing information. Thus, these techniques might promote reduction of self-concealment.

Taken together, both social and psychotherapy research suggests that therapeutic factors, such as the nature of the relationship, therapist characteristics and techniques, and confidentiality, reduce clients' tendencies to withhold personally distressing information regardless of their general self-concealment predispositions, thus facilitating more open and intimate relationships. However, given that the present study's findings are based on correlations with general self-concealment tendencies, this idea should be further tested by examining whether clients' tendencies to conceal information specifically in therapy reduces and whether therapeutic factors directly influence this reduction.

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The study's findings regarding reduction of self-concealment from pre- to post-therapy have important implications for psychotherapy research. First, although it has been assumed that high self-concealers withhold information in therapy and, thus, are less likely to experience a positive outcome (Doxsee & Kivlighan, 1994; Saffer, Sansone, & Gentry, 1979), the present study found that, not only did participants experience a reduction of their concealing tendencies from pre- to post-therapy, but those participants also experienced therapeutic improvement as evidenced by a reduction of their distress levels from pre- to post-therapy.

Second, given that the SCS (Larson & Chastain, 1990) assesses general predispositions for withholding personally distressing information, the present finding that self-concealment reduced from pre- to post-therapy suggests that this reduction may have generalized to participants' daily lives, including to their relationships with other individuals. It appears that participants became more open to discussing their personal distresses and embarrassments and, thus, more open to experiencing intimate relationships beyond the therapeutic relationship. This idea, however, should be empirically validated by assessing participants' degree of openness and intimacy in their relationships with others. Nevertheless, this idea supports a major tenet of psychotherapy, namely that clients are able to generalize therapeutic gains made over the course of psychotherapy to their daily lives (Freeman & Rosenfield, 2002). The present findings also are consistent with previous studies demonstrating generalization of gains made in therapy, such as improvement of depression symptoms and application of skills to clients' natural environments (Amigo, 1994; Freeman & Rosenfield, 2002), and even improvement of posttraumatic symptoms from other traumas that were not treated in

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therapy (Pitman, Orr, Altman, & Longpre, 1996). In particular, the possibility that self-concealment reduction generalized to participants' interactions with others supports previous studies that found that the development of a positive and collaborative therapeutic relationship was generalized to clients' relationships outside of therapy (Cochran & Cochran, 1999; Hurley & Hurley, 1987). The mechanism proposed for this generalization is that therapists who are empathetic, accepting, and express genuine interest in their clients enable clients to experience closeness and trust (Hurley & Hurley, 1987) and to break down negative self-perceptions and relationship patterns (Cochran & Cochran, 1999) that, in turn, are imitated in clients' other relationships. However, the present study did not directly assess whether participants' tendencies to conceal personal information reduced specifically in therapy and, as such, this idea should be examined.

Third, the finding that participants reported an improved ability to reveal personal information and a reduced fear of its repercussions from pre- to post-therapy fits with claims within the psychotherapy literature that successful therapy not only reduces symptomatology but also can relieve suffering, facilitate positive psychological well-being, increase satisfaction, and promote self-fulfillment (Fava, 1996; Napier, 2002; Ryan & Deci, 2001; Ryff & Singer, 1996). The present finding also is consistent with previous studies that have reported improvement in clients' well-being and quality of life, restoration of positive functioning, and psychological growth as a result of participation in therapy (Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998; Fava & Ruini, 2003; Gladis, Glosh, Dishuk, & Crits-Cristoph, 1999; Napier, 2002; Ryff & Singer, 1996). Thus, it appears that successful therapy is linked to reduction in self-concealment tendencies and

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this reduction not only is generalized to other relationships but also contributes to an enhanced quality of life through greater openness to intimate relationships.

Lastly, given that the SCS assesses a dispositional trait (Larson & Chastain, 1990) yet participants' self-concealment tendencies, as measured by the SCS, reduced from pre- to post- therapy, the trait of self-concealment appears to have been modified by therapy. However we also found that intake and termination self-concealment were positively linked. These findings suggest that, although therapy does not completely transform the trait of self-concealment, therapy does appear to reduce participants' self-concealment tendencies to some degree. This proposition fits claims made by both clinicians and researchers that, although personality dimensions are conceived as stable traits, personality changes can occur following therapeutic treatment (Fehr, 2003; Fichter & Quadflieg, 2000).

The present finding also is consistent with studies reporting modification of various personality traits and personality aberrations following therapeutic interventions. For example, Napier (2002) found that clients who reported a sense of mutuality and connection with their therapist developed their adaptive personality traits. Corruble, Duret, Pelissolo, Falissard, and Guelfi (2002) also found personality changes among clients who had successfully completed therapy for depression, including reduction in harm avoidance, self-transcendence, and increase in cooperativeness and self-directedness. These changes were maintained after one year. In addition, certain therapeutic modalities are thought to influence characterological traits. Cognitive behavioral therapy has been found to reduce the dispositional variable of anxiety sensitivity (McNally, 2002), and to reduce extreme personality traits as assessed by the

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Freiburger Personality Inventory (FPI-R; Fichter & Quadflieg, 2000), while autogenic training was found to reduce personality traits of anxiety that promoted stress responses and to increase traits of ego strength, barrier, and personal locus of control to moderate stress responses (Farne & Jimenez-Munoz, 2000). Furthermore, treatment of personality disorders is based on the premise that at least several personality aberrations are amenable to therapy (Harkness & McNulty, 2002; Stone, 2002). Research supports this premise, with personality-focused therapy having demonstrated an ability to increase optimism and to alleviate DSM-IV personality traits of avoidant, dependent, and obsessive-compulsive personality disorders (Hoffart & Sexton, 2002), and dialectical behavior therapy having demonstrated efficacy in reducing extreme personality facets and changing clinical outcomes for patients diagnosed with Borderline Personality Disorder (Robins, 2002). Furthermore, psychotropic medications have been found to reduce features of personality disorders (Mitra & Chattopadhyay, 2001; Reich, 2002), as well as personality traits of anxiety sensitivity (McNally, 2002) and harm avoidance and self-transcendence (Agosti & McGrath, 2002; Brody et al., 2000).

Consequently, research supports the idea that certain personality dimensions, such as self-concealment, can change with treatment. Participants appear to have experienced some degree of reduction in their predisposition to withhold information in relationships outside of the therapeutic setting.

Associations among Self-Concealment Reduction and Reduction in Distress Measures

Given the finding that self-concealment reduced from pre- to post-therapy, the present study investigated whether self-concealment reduction was associated with changes in distress scores from pre- to post-therapy. Present findings indicated that self-

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concealment reduction predicted reduction in global distress, depression, state anxiety, and trait anxiety from pre- to post-therapy even after accounting for client gender, intake distress and therapy duration. These findings are new to the self-concealment literature and suggest that reduction in self-concealment predicts therapeutic improvement as measured by reduction in distress. Although these findings represent a unique contribution of the study, they are consistent with theories within the self-disclosure and psychotherapy literature that propose that increasingly revealing previously withheld personal information generates psychological well-being.

According to self-disclosure models, the process of revealing personally distressing information engenders psychological relief even if it results in negative repercussions (Kelly & McKillop, 1996; Jourard, 1971). Such revelations are thought to produce a cathartic effect in which emotional distress and tension are released and feelings of guilt and shame are relieved (Omarzu, 2000). However, revealing previously withheld distressing information also is thought to promote self-knowledge and mastery of the difficulty (Tschuschke, McKenzie, Haaser, & Janke, 1996), to develop one's identity through integration of positive and negative aspects of oneself (Hymer, 1982), and to gain new insights regarding the meaning of the withheld information (Kelly, Klusas, von Weiss, & Kenny, 2001). Indeed, research indicates that revealing previously concealed information is linked to perspective changes and greater understanding of one's experiences (Derlega et al., 1993; Pennebaker et al., 1988). More recently, Kelly and colleagues (2001) investigated which effects of revealing secrets were linked to positive psychological outcomes. The authors found that participants who reported gaining new insights from revealing their secrets in the past tended to have positive

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feelings surrounding their secrets currently while participants who reported experiencing catharsis from revealing their secrets in the past tended to have negative feelings surrounding their secrets currently. Consequently, the effects of solely venting emotions did not appear to be helpful. Rather, the authors proposed that the ability to gain insights by revealing previously withheld personally distressing information enabled individuals to gain meaning about the secret and to experience a sense of resolution and closure about the secret.

Researchers also claim that individuals who increasingly reveal previously concealed information experience social rewards, such as receiving support and acceptance (Derlega et al., 1993), realizing that others struggle with similar experiences (Wortman & Dunkel-Schetter, 1979), and developing new coping skills (Lazarus, 1966). These experiences are enable individuals to experience distress relief, to see themselves more positively, and to feel in control of their lives (Sarason, Sarason, & Pierce, 1990).

The present findings linking reduction in self-concealment to reduction in distress also support various principles within the treatment literature. A central tenet of many psychotherapy models is that the process of confiding one's personally distressing information helps to relieve psychological distress (Chaiken & Derlega, 1974; Cohen & Schwartz, 1997; Stiles, Shuster, & Harrigan, 1992). Accordingly, many treatment models promote client openness for successful recovery (Breuer & Freud, 1937; Mowrer, 1964; Rogers, 1961). Furthermore, common change factors, such as forming a therapeutic relationship, obtaining an external perspective of one's situation, and engaging in corrective experiences all rely on clients' willingness to reduce their tendency to withhold personally distressing information (Goldfried, 1982). Indeed, Winston and Muran (1996)

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found that clients' ability to increasingly express over time personal feelings and thoughts predicted successful therapy outcome regardless of therapy modality. Therefore, the capacity to reduce concealing and to increase sharing private and negative information is viewed as an essential aspect of therapy regardless of therapeutic style (Chelune, Rosenfeld, & Waring, 1985; Hendrick, 1987; Stiles, 1995).

More specifically, the link between self-concealment reduction and distress reduction fits with various models of treatment. Freud and Breuer (1937), pioneers of psychodynamic therapy, proposed that reducing clients' concealment of distressing thoughts and feelings resulted in a disappearance of hysterical symptoms. Current psychodynamic theories assume that successful resolution of pathology requires accessing all thoughts and feelings so that the ego subdues id forces, thereby allowing for insight and cognitive reinterpretation (Horowitz, 1989). Hence, a psychoanalytic cure is presumed to require the open expression of one's innermost secrets that serves as the vehicle for insight and understanding (Hoyt, 1978).

Cognitive-behavioral theories assert that clients' revelations of their personal information assists them to engage in the cognitive work of organizing (Michenbaum, 1995), assimilating (Stiles, 1995) reframing (Silver, Boon, & Stones, 1983), and giving meaning to their distressing experiences and feelings (Hill & O'Brien, 1999). Thus, constructive change and resolution of psychological distress relies on clients' willingness to confide their personally distressing thoughts, feelings, and experiences so that their maladaptive beliefs and perceptions can be directly confronted and changed (Foa, Rothbaum, Riggs, & Murdock, 1991; Shapiro, 1999).

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Lastly, humanistic therapies stress the role of revealing personal experiences so that clients can come to know and trust themselves, thereby finding self-fulfillment (Rogers, 1957). Emphasis is placed on creating a safe therapeutic environment that reduces tendencies to withhold information (Jones & Pittman, 1982) so that clients can reach inward to their affirming beliefs, values, and feelings. Indeed, Goldman (1998) found that greater depth of experiencing interpersonal and intrapersonal distress, resulting from revelation and processing of this distress, uniquely predicted reduction in depression and global distress.

Importantly, the relationship between self-concealment reduction and reduction in distress might be mediated by psychotherapy. For example, therapist qualities of nurturance, acceptance, and empathy are thought to reduce client concealment and improve emotional well-being (Hill et al., 2000). When clients reveal over time their experiences and feel understood by their therapists, they experience healing and increased self-trust (Orlinsky, Graw, & Parks, 1994; Rogers, 1957; Trop & Stolorow, 1997). Therapist techniques also are aimed at reducing clients' self-concealing tendencies and at facilitating revelations (Larson & Chastain, 1990; Sloan & Stiles, 1994). Therapists assist clients to challenge their fear that revealing their information will be met by a negative reaction by offering positive feedback such as insight and support (Bloch & Reibstein, 1980; MacKenzie, 1987). Importantly, these techniques are assumed to be curative factors determining a positive therapy outcome (Tait & Silver, 1989; Towbin, 1978). Lastly, when clients reveal their secrets in a facilitative relationship, they are likely to feel accepted, receive comfort, and gain insight into their distress (Rhodes, Hill, Thompson, & Elliott, 1994; Yalom, 1985). Hence, psychological relief is associated with revealing

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secrets while the fear of negative consequences is reduced. This experience is thought to promote further reduction of concealment and distress (Horvath & Symonds, 1991; Kowalski, 1999; Orlinsky et al., 1994).

Taken together, these ideas suggest that factors unique to therapy promote reduction in self-concealment and reduction in distress. Future studies, however, should test this proposition by examining associations among therapy variables, self-concealment, and distress outcomes.

Self-Concealment Reduction and Clinically Significant Improvement

The present study found that self-concealment reduction was positively linked to clinically significant reduction in global distress from pre- to post- therapy but did not uniquely predict clinically significant reduction in global distress after accounting for intake distress, gender, and therapy duration. However, post-hoc analyses revealed that participants' GSI scores in Tingey et al.'s (1996) severely symptomatic category could be divided into two distinct groups, namely "severe" and "very severe". Based on this revision, several participants whose very severe intake GSI scores reduced to the severe group at termination met full criteria for clinical significance and were included with participants who had met Tingey et al.'s (1996) original clinical significance criteria. Following these changes, self-concealment reduction was found to uniquely predict clinically significant reduction in global distress. These findings are new within the self-concealment literature and have important implications for psychotherapy.

First, the present findings suggest that Tingey et al.'s (1996) severely symptomatic category does not account for symptom differences within this distribution. Tingey et al.'s distributions were derived from adult samples while the present study used

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a college sample. Thus, Tingey et al.'s distributions might not properly characterize symptomatology distributions among college samples. This idea is supported by previous studies that found greater symptom endorsement among college outpatients than adult outpatients (Beck et al., 1988; Kopta & Lowry, 2002) and among non-clinical college students than community adults (Kopta & Lowry, 2002; Radloff, 1991; Todd et al., 1997). The present study found that participants reported severe levels of global distress that were reflective of scores endorsed by Tingey et al.'s (1996) inpatient sample. However, participants in the present study were attending undergraduate classes, most of them full-time. Perhaps college students represent an enigmatic population in that their self-reported distress levels are less predictive of their psychological and adaptive functioning than adult self-reports. Research also suggests that college samples may have different symptom distributions, particularly at the upper extremes (Kopta & Lowry, 2002). Consequently, future research should examine the generalizability of the present study's associations between college participants' self-reported distress levels and self-concealment tendencies to adult populations. Furthermore, the present study's results suggest that research should test whether Tingey et al.'s (1996) global symptom distress distributions are in need of refinement among college samples.

The present study indicated that, following modifications made to the distribution categories, self-concealment reduction was linked to meaningful reduction of global distress. This finding indirectly supports the psychotherapy literature that claims that revealing private and distressing experiences is a necessary requirement for achieving a successful therapy outcome (Case et al, 1992; Harris et al., 1999; Ichiyama et al., 1993; Jourard, 1971; Stiles, 1995). Moreover, the present finding suggests that self-concealment

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reduction contributes to meaningful distress reduction. Given that clinicians are called upon to improve the effectiveness of their services, knowledge of the link between self-concealment reduction and clinically significant reduction in global distress can potentially guide clinicians in providing more effective treatment by attending to clients' self-concealment behaviours. In particular, assisting clients to alleviate their fears of revealing distressing information and to reduce their self-concealment could promote positive therapy outcome that is meaningful to clients' quality of life.

Additional Findings with Self-Concealment

The present study did not find differences in intake self-concealment based on participants' gender, religion, age, university year or program, type of problem area reported, or parents' country of birth. However, a new finding was that clients involved in same-sex relationships reported lower self-concealment than clients who were single. Although research examining communication differences based on type of relationship is sparse, the present finding fits with Edwards' (1998) study that found that same-sex partners reported less difficulty communicating than opposite-sex partners. One might expect that participants involved in same-sex relationships already have had to overcome concerns about revealing personal information, including their sexual orientation, and thus are less likely to conceal information in other situations. In contrast, single participants might be more likely to withhold personally distressing information for fear that revealing such information will inhibit their chances of finding a partner. Studies have found that individuals searching for a partner are more likely to engage in impression management strategies by presenting an enhanced self-image to others (Paulhus, 2002) and by dissociating themselves from undesirable qualities (Leary &

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Kowalski, 1990). Individuals pursuing relationships also are more likely to withhold personal information in order to exert control over interactions and enhance a potential relationship (Affifi & Guerrero, 2000). Hence, single participants in the present study might have been engaging in these strategies more than participants in same-sex relationships, particularly since they are at an age and stage in life where finding a partner is an important goal. However, self-concealment differences were not found between participants in heterosexual relationships and single participants. Future studies could further investigate self-concealment differences based on different types and phases of relationships.

Limitations of the Present Study

Conclusions that can be drawn from present results are limited by several factors. First, conclusions are limited by the correlational design of this study. Although relationships were found between reduction in self-concealment, global distress, depression, state anxiety, and trait anxiety, causation and direction of influence cannot be established. Accordingly, one cannot determine when or whether reduction in self-concealment is required for reduction in global distress, depression, state anxiety, or trait anxiety, whether reduction in one or more of these areas of distress contributes to reduction in self-concealment, if there is a bi-directional influence between the processes, or if additional factors are influencing the relationships. Given that the present study assessed clients' general self-concealment tendencies and not their level of self-concealment in therapy, it is possible that factors extraneous to therapy might have contributed to self-concealment reduction. Future studies using path modeling or time series analyses could better assess causal directions of influence. Such studies could

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investigate the direction and magnitude of the relationships between self-concealment and distress measures.

Second, the study relied on the use of self-reports. Participants' inaccurate perceptions of their self-concealment tendencies and distress levels could have biased their responses, particularly since self-reports associated with therapy outcome are likely to be distorted and selective (Kazdin, 1998). Participants may have rated themselves as improved on post-treatment measures independently of whether therapy had an effect (Patterson & Sechrest, 1983) due to the Hawthorne effect (Roethlisberger & Dickson, 1939), self-image concerns (Quinn, 1995), a desire to positively reinforce their therapist, or a need to believe they experienced distress reduction. Given the inability to control for self-report biases, the present study cannot be confident of the accuracy and validity of participants' reports and, thus, cannot come to definitive conclusions about the relationships between the variables in the study. Future studies should assess associations between self-concealment and psychological distress using multiple modalities.

Third, time constraints associated with the school year may have imposed an artificial termination point for clients who continued with therapy for eight or more sessions. Many clients terminated therapy at the end of a school term. Consequently, despite the finding that clients improved at therapy termination, it is possible that they may have not had enough time in therapy to attain their optimal level of improvement. Such a possibility might have diminished the degree of change between pre- and post-scores of the distress measures, as well as associations among self-concealment and reduction in distress. In particular, it might have limited the number of clients who reported clinically significant improvement in global distress, thereby reducing this

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study's ability to find an association between reduction in self-concealment and clinically significant reduction in global distress. Future studies should therefore replicate the present study' findings without constraining therapy duration or imposing an artificial termination point.

Fourth, given participants' high distress and self-concealment scores at therapy intake, reduction of these scores from pre- to post-therapy may have been an artifact of regression toward the mean and, thus, possibly was independent of therapeutic factors. Consequently, propositions regarding the influence of therapy on distress and self-concealment reduction are not conclusive and their validity should be empirically tested. Future studies should attempt to control for this methodological limitation and examine the unique influence of therapeutic factors on reduction of distress and self-concealment.

Fifth, the present study's examination of self-concealment was limited by the SCS measure (Larson & Chastain, 1990) and by our knowledge of self-concealment. It is assumed that since the SCS assesses the trait of self-concealment, SCS scores do not fluctuate across time and context (Larson & Chastain, 1990). Indeed, the SCS has been shown to have high test-retest reliabilities over a period of several weeks (Cramer & Barry, 1999; Larson & Chastain, 1990). However, the present study found that participants' SCS scores reduced from therapy intake to termination. This finding might suggest that the SCS does not accurately assess the trait of self-concealment. However, as previously discussed, it is possible for individuals to experience some degree of modification of their personality characteristics without a complete alteration of these characteristics (Fehr, 2003; Fichter & Quadflieg, 2000). Thus, participants in the present study might have experienced a reduction of their self-concealment tendency within their

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general range. Nevertheless, given that research examining trait and state aspects of self-concealment has been sparse, future research should more thoroughly examine the nature of self-concealment, including how it is invariable and linked to personality variables, as well as whether it is influenced by different contexts such as therapy.

In addition, the SCS was designed to assess general self-concealment tendencies. As such, participants' self-reports of their self-concealment tendencies might have differed from their actual tendency to conceal personally distressing information in therapy. Consequently, propositions that self-concealment reduced in therapy and that reduction in self-concealment engendered therapeutic effects are only conjectures and should be verified by specifically examining self-concealment tendencies in therapy. Future research should develop a self-concealment measure that assesses clients' self-concealment tendencies specifically within therapy to more accurately investigate whether the tendency to conceal from therapists changes over the course of therapy.

The present study's finding regarding reduction of self-concealment from pre- to post-therapy raises another issue, namely that self-concealment reduction might be unique to therapy and therefore might not reflect a general trend in self-concealment. Psychotherapy literature asserts that factors unique to therapy, such as therapist empathy and self-disclosure, specific interventions, and a positive therapeutic relationship reduce self-concealment (Hill et al., 2000; Horvath & Symonds, 1991; Kowalski, 1999; Orlinsky et al., 1994). It is possible that, once participants terminate therapy, they experience a rebound effect whereby they return to their original self-concealment levels. Consequently, reduction in self-concealment might not persist. Future longitudinal

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research should investigate whether reduction in self-concealment is maintained months and even years after therapy termination.

Finally, one cannot generalize the findings beyond a predominantly female undergraduate outpatient population. Future studies should assess the comparability of these results with other outpatient and inpatient samples.

Contribution of the Present Study to the Self-Concealment Literature

Despite the limitations, the present study included methodological and conceptual strengths. To date, information about self-concealment has been based on presumptions and limited research, use of different definitions and measures, and equivocal findings. Until this current study, self-concealment had not been examined at different time periods, investigated for possible changes in self-concealment tendencies, or studied in relation to psychotherapy outcome. The current study systematically tested predictions linking self-concealment with global distress, depression, state anxiety, trait anxiety, and premature termination from therapy. The present study used standardized measures to assess each construct and assessed multiple dimensions of psychological distress.

Furthermore, this study's findings added to the self-concealment literature. Previous research has only examined the related but distinct construct of distress disclosure in relation to psychotherapy outcome (Kahn et al., 2001). The present study is the only study to date that has specifically examined self-concealment and therapy outcome. Differences in findings between the current study and Kahn et al.'s (2001) study lend additional support for the argument that self-concealment and distress disclosure are conceptually different and have unique associations with psychological distress and psychotherapy outcome. Present findings indicated that intake self-

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concealment predicted intake symptomatology whereas Kahn et al. (2001) did not find a link between intake distress disclosure and intake symptomatology. In contrast, the present study did not find a link between intake self-concealment and symptom reduction but Kahn et al. found a positive association between intake distress disclosure and symptom reduction. Although these discrepant findings should be empirically validated with methodological refinements, such differences suggest that distress disclosure and self-concealment are unique and important client factors that appear to influence psychotherapy outcome. As such, both constructs likely are clinically relevant and should be addressed in therapy. For example, if clients score low on the DDI, they might benefit from processing their concerns about expressing their emotions and from experiencing positive outcomes of expressing their distressing feelings in therapy. In contrast, if clients score high on the SCS, they might benefit from processing their concerns about expressing negative self-referent information, including issues of shame and embarrassment, and from revealing previously withheld personal information in therapy in order to make meaning and to gain insight into their experiences.

The present study went beyond Kahn et al.'s (2001) study and investigated not only the relationship between intake self-concealment and therapy outcome but also examined questions of study new to the self-concealment literature, including whether self-concealment changed from pre- to post-therapy and whether self-concealment change predicted change in distress from pre- to post-therapy. Our findings that self-concealment reduced from pre- to post-therapy and that self-concealment reduction uniquely predicted reduction in symptomatology that was both statistically and clinically meaningful adds to the self-concealment literature by providing a more comprehensive

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understanding of self-concealment, including its link to distress at different time periods and its role in predicting clinically meaningful therapy outcome.

Future Research

Present findings open the door for future research to refine and develop a more complete comprehension of self-concealment in relation to psychological distress and psychotherapy. Future studies should use path modeling or time series analyses to test the direction of relationships between self-concealment and distress measures at pre- and post-therapy. It also would be beneficial to examine whether clients' self-concealment patterns change specifically during the course of therapy, and if so, how these patterns are linked to distress reduction in therapy and how they are influenced by personality variables and therapy variables such as therapist characteristics, the therapeutic relationship, and specific interventions. Furthermore, it would be of interest to examine whether self-concealment reduction lasts for any substantial duration and whether it impacts clients' daily lives and relationships.

Future studies additionally could investigate whether differences exist between self-concealment tendencies in everyday relationships and self-concealment tendencies specifically in therapy. For example, studies could assess if reduction of one's tendency to withhold personally distressing information is unique to therapy or if this phenomenon can occur in different settings and across different relationships.

Of relevance to self-presentational theory, future studies should attempt to clarify possible distinctions between general self-concealment tendencies and the withholding of a specific secret, particularly with reference to psychological distress and therapy outcome. Although a greater predisposition to conceal has been linked to psychological

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distress and reduction of this predisposition from pre- to post-therapy has been linked to reduction in distress, Kelly (1998) found that possession of a relevant secret in therapy was linked to symptomatology reduction even after accounting for clients' self-concealment tendencies. Consequently, it is possible that effects and motivations associated with one's general self-concealment tendency are distinct from effects associated with concealment of a specific secret. If studies find that clients' self-concealment tendencies in therapy differ from possessing a specific secret in therapy in terms of psychological distress and therapy outcome, it would be of interest to examine the mechanisms that lead to discrepant findings.

Lastly, studies could examine potential implications of self-concealment on individuals' lives. Although the present study suggests that the ability to reduce one's self-concealment tendency promotes psychological well-being, it seems likely that some degree of self-concealment is beneficial (Kelly, 2002; Kelly & McKillop, 1996). Thus, studies could assess beneficial levels of self-concealment and what personality or social factors could promote these levels. Investigation of all these inquiries would contribute to a more comprehensive understanding of self-concealment and could guide therapeutic interventions in promoting more successful outcome.

Summary

The present study contributed to the literature by providing more information on the process and experience of self-concealment in relation to psychological distress and psychotherapy. Some of the findings support previous research while other findings are new to the self-concealment literature. Specifically, the tendency to conceal personally distressing information at therapy intake was linked to greater psychological distress at

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intake. However, intake self-concealment did not uniquely predict psychological distress at therapy termination or reduction in psychological distress from pre- to post- therapy. A new finding was that self-concealment reduced from pre- to post- therapy. Furthermore, reduction in self-concealment predicted reduction in global distress, depression, state anxiety, and trait anxiety from pre- to post- therapy even after accounting for client gender, initial distress levels, and duration of therapy. Following refinements to Tingey et al.'s (1996) sample distributions and clinical significance criteria, post-hoc analyses revealed that reduction in self-concealment also predicted clinically significant reduction in global distress, suggesting that self-concealment reduction is linked to meaningful change in clients' level of functioning.

The present study has important implications for psychotherapy. Given that reduction of participants' tendency to conceal personal and distressing information appeared to generalize to their daily lives and relationships, predicted reductions in various aspects of personal distress, and was linked to clinically meaningful reduction of global distress, self-concealment reduction appears to be an important treatment factor that predicts therapeutic improvement. Consequently, clinicians might benefit from understanding what therapeutic factors, interventions, and processes are more likely to promote reduction in self-concealment.

Future studies can incorporate present findings in developing a more comprehensive understanding of the associations among self-concealment, psychological distress, and psychotherapy process and outcome. Clinicians potentially can apply this knowledge in guiding therapeutic interventions and thus helping clients to more effectively resolve their distress and to experience psychological well-being.

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References

Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review, 23*, 1-33.

Affifi, W. A., & Guerrero, L. K. (2000). Motivations underlying topic avoidance in close relationships. In W. A. Affifi (Ed.), *Balancing the secrets of private disclosures* (pp. 165-179). Mahwah, NJ: Lawrence Erlbaum Associates.

Agosti, V., & McGrath, P. J. (2002). Comparison of the effects of fluoxetine, imipramine and placebo on personality in atypical depression. *Journal of Affective Disorders, 71*, 113-120.

Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Holt, Rinehart, & Winston.

Amigo, S. (1994). Self-regulation therapy and the voluntary reproduction of stimulant effects of ephedrine: Possible therapeutic applications. *Contemporary Hypnosis, 11*, 108-120.

Appelbaum, P. S., et al. (1984). Confidentiality: An empirical test of the utilitarian perspective. *Bulletin of the American Academy of Psychiatry & the Law, 112*, 109-116.

Archer, R. L. (1979). The role of personality and the social situation. In G. J. Chelune (Ed.), *Self-disclosure.* San Francisco: Jossey-Bass.

Arizmendi, T., Beutler, L., Shanfeld, S., Crago, M, & Hagaman, R. (1985). Client-therapist value similarity and psychotherapy outcome: A microscopic analysis. *Psychotherapy, 22*, 6-21.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Barkham, M., Rees, A., Shapiro, D. A., Stiles, W. B., et al. (1996). Outcomes of time-limited psychotherapy in applied settings: Replicating the Second Sheffield Psychotherapy Project. *Journal of Consulting & Clinical Psychology, 64*, 1079-1085.

Barrett-Lennard, G. T. (1962). Dimensions of therapist response as causal factors of therapeutic change. *Psychological Monographs, 76* (43, Whole No. 562).

Baxter, L. A. (1988). A dialectical perspective on communication strategies in relationship development. In S. Duck, F. Dale, et al. (Eds.), *Handbook of personal relationships: Theory, research and interventions* (pp. 257-273). Oxford, England: Wiley.

Beatson, J. A., & Lancaster, J. E. (1993). Peer review of psychotherapeutic treatments in psychiatry: A review of the literature. *Australian & New Zealand Journal of Psychiatry, 27*, 311-318.

Beck, N. C., Lamberti, J. Gamache, M., Lake, E. A., Fraps, C. L., McReynolds, W. T., Reaven, N., Heisler G. H., & Dunn, J. (1987). Situational factors and behavioral self-predictions in the identification of clients at high risk to drop out of psychotherapy. *Journal of Clinical Psychology, 43*, 511-520.

Beck, A., Steer, R., & Garbin, M. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.

Beck, A., Ward, C., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 561-571.

Belle, D. (1982). The stress of caring: Women as providers of social support. In L.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 496—505). New York: Free Press.

Bem, D. J. (1972). Self-perception theory. In Berkowitz, L. (Ed.), *Advances in experimental social psychology, Volume 6* (pp. 2-62). New York: Academic Press.

Bem, D. J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review, 74*, 183-200.

Benjamin, L. S. (1974). Structural analysis of social behavior. *Psychological Review, 81*, 392-425.

Beutler, L. E., Machado, P. P., & Neufeldt, S. A. (1994). Therapist variables. In Bergin, A.E., & Garfield, S. L. (Eds.), *Handbook of psychotherapy and behavior change, 4th edition* (pp. 229-269). New York: John Wiley & Sons, Inc.

Binder, R. (1981). Why women don't report sexual assault. *Journal of Clinical Psychiatry, 42*, 437-438.

Blackburn, R. (1965). Emotionality, repression-sensitization, and maladjustment. *British Journal of Psychiatry, 111*, 399-400.

Blackwell, B., Gutmann, M., & Gutman, L. (1988). Case review and quantity of outpatient care. *American Journal of Psychiatry, 145*, 1003-1006.

Bloch, S., & Reibstein, J. (1980). Perceptions by patients and therapists of therapeutic factors in group psychotherapy. *British Journal of Psychiatry, 137*, 274-278.

Bok, S. (1982). *Secrets: On the ethics of concealment and revelation.* New York: Pantheon Books.

Borkovec, T. D., Roemer, L., & Kinyon, J. (1995). Disclosure and worry: Opposite sides

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

of the emotional processing coin. In J. W. Pennebaker (Ed.), *Disclosure, emotion, and health* (pp.47-70). Washington, DC: American Psychological Association.

Breuer, J., & Freud, S. (1937). *Studies on hysteria.* New York, NY: Nervous and Mental Disease Monographs.

Broadhead, W. E., Kaplan, B. H., James, S. A., Wagner, E. H., Schoenbach, V. J., Grimson, R., Heyden, S., Tibblin, G., & Gehlbach, S. H. (1983). The epidemiologic evidence for a relationship between social support and health. *American Journal of Epidemiology, 117*, 521-537.

Brody, A. L., Saxena, S., Fairbanks, L. A., Alborzian, S., Demaree, H. A., Maidment, K. M., & Baxter, L. R. Jr. (2000). Personality changes in adult subjects with major depressive disorder or obsessive-compulsive disorder treated with paroxetine. *Journal of Clinical Psychiatry, 61*, 349-355.

Brundage, L., Derlega, V., & Cash, T. (1977). The effects of physical attractiveness and need For approval on self-disclosure. *Personality and Social Psychology Bulletin, 3*, 63-66.

Buller, D. B., & Burgoon, J. K. (1996). Another look at information management: A rejoinder to McCornack, Levine, Morrison, and Lapinski. *Communication Monographs, 63,* 92-98.

Burger, J. M. (1995). Individual differences in preference for solitude. *Journal of Research in Personality, 29*, 85-108.

Campbell, R. S., & Pennebaker, J. W. (2003). The secret life of pronouns: Flexibility in writing style and physical health. *Psychological Science, 14*, 60-65.

Carkhuff, R. R. (1969). *Human and helping relations (Vols. 1 & 2).* New York: Holt,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Rinehart, and Winston.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283.

Case, R. B., Moss, A. J., Chase, N., McDermott, M., & Elderby. S. (1992). Living alone after myocardial infarction: Impact on prognosis. *Journal of the American Medical Association, 267,* 515-519.

Cepeda-Benito, A., & Short, P. (1998). Self-concealment, avoidance of psychological services, and perceived likelihood of seeking professional help. *Journal of Counseling Psychology, 45,* 58-64.

Chaiken, A. L., & Derlega, V. J. (1974). Liking for the norm-breaker in self-disclosure. *Journal of Personality, 42,* 117-129.

Chambless, D. L., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66,* 7-18.

Chelune, G. J., Rosenfeld, L. B., & Waring, E. M. (1985). Spouse patterns in distressed and nondistressed couples. *American Journal of Family Therapy, 13,* 24-32.

Chelune, G. J., Robinson, J. T., & Kommor, M. J. (1984). A cognitive interactional model of intimate relationships. In V. J. Derlega (Ed.), *Communication, intimacy, and close relationships* (pp. 11-40). Orlando, FL: Academic Press.

Chesner, S. P., & Baumeister, R. F. (1985). Effect of therapist's disclosure of religious beliefs on the intimacy of client self-disclosure. *Journal of Social & Clinical Psychology, 3,* 97-105.

Coates, D., & Winston, T. (1987). The dilemma of distress disclosure. In V. J. Derlega &

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

J. H. Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 229-255). New York: Plenum Press.

Cochran, J. L., & Cochran, N. H. (1999). Using the counseling relationship to facilitate change in students with conduct disorder. *Professional School Counseling, 2*, 395-403.

Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life stress change. *Journal of Applied Social Psychology, 13*, 99-125.

Cohen, B. J., & Schwartz, R. C. (1997). Environmental factors and clients' self-disclosure in counseling. *Psychological Reports, 81*, 931-934.

Conte, H. R., Plutchik, R., Picard, S., Karasu, T. B., et al. (1988). Self-report measures as predictors of psychotherapy outcome. *Comprehensive Psychiatry, 29*, 355-360.

Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.

Corcoran, K. J. (1988). The relationship of interpersonal trust to disclosure when confidentiality is assured. *Journal of Psychology, 122*, 193-195.

Corruble, E., Duret, C., Pelissolo, A., Falissard, B., and Guelfi, J. D. (2002). Early and delayed personality changes associated with depression recovery: A one-year follow-up study. *Psychiatry Research, 109*, 17-25.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory and Five-Factor Inventory professional manual.* Odessa, FL: Psychological Assessment Resources.

Cox, T., & McCay, C. (1982). Psychosocial factors and psychophysiological mechanisms in the etiology and development of cancers. *Social Science and Medicine, 16*, 381-396.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Cozby, P. C. (1973). Self-disclosure: A literature review. *Psychological Bulletin, 79*, 73-91.

Cramer, K. M. (1999). Psychological antecedents to help-seeking behavior: A reanalysis using path modeling structures. *Journal of Counseling Psychology, 46*, 381-387.

Cramer, K. M., & Barry, J. E. (1999). Psychometric properties and confirmatory factor analysis of the self-concealment scale. *Personality and Individual Differences, 27*, 629-637.

Cramer, K. M., & Lake, R. P. (1998). The preference for solitude scale: Psychometric properties and factor structure. *Personality and Individual Differences, 24*, 193-199.

Creamer, M., Burgess, P., & Pattison, P. (1992). Reaction to trauma: A cognitive processing model. *Journal of Abnormal Psychology, 101*, 452-459.

Davies, M. (1970). Blood pressure and personality. *Journal of Psychosomatic Research, 14*, 89-104.

De Araujo, L. A., Ito, L. M., & Marks, I. M. (1996). Early compliance and other factors predicting outcome of exposure for obsessive-compulsive disorder. *British Journal of Psychiatry, 169*, 747-752.

Derlega, V. J., & Chaikin, A. L. (1977). Privacy and self-disclosure in social relationships. *Journal of Social Issues, 33*, 102-115.

Derlega, V. J., & Grzelak, J. (1979). Appropriateness of self-disclosure. In G. J. Chelune (Ed.), *Self-disclosure: Origins, patterns, and implications of openness in interpersonal relationships* (pp.151-176). New York: Jossey-Bass.

Derlega, V. J., Metts, S., Petronio, S., & Margulis, S. T. (1993). *Self-Disclosure.*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Newbury Park, CA: Sage Publications.

Derogatis, L. R., Abeloff, M. D., & Melisaratos, N. (1979). Psychological coping mechanisms and survival time in metastatic breast cancer. *Journal of the American Medical Association, 242*, 1504-1508.

Derogatis, L. R. (1983). *SCL-90-R administration, scoring and procedures manual for the revised version.* Towson, MD: Clinical Psychiatric Research.

Derosa, T. (2000). Personality, help-seeking attitudes, and depression in adolescents. *Dissertation Abstracts International, 61* (06), 3273B.

Dickerson, V. C., & Coyne, J. C. (1987). Family cohesion and control: A multitrait-multimethod study. *Journal of Marital & Family Therapy, 13*, 275-285.

Dindia, K. (2000). Sex differences in self-disclosure, reciprocity of self-disclosure, and Self-disclosure and liking: Three meta-analyses reviewed. In S. Petronio (Ed.), *Balancing the secrets of private disclosures* (pp. 21-35). Mahwah, NJ: Lawrence Erlbaum Associates.

Doxsee, D. J., & Kivlighan, D. M. (1994). Hindering events in interpersonal relations groups for counselor trainees. *Journal of Counseling and Development, 72*, 621-626.

Duck, S. W. (1988). *Relating to others.* Pacific Grove, CA: Brooks/Cole.

Eckert, P. A., Abeles, N., & Graham, R. N. (1988). Symptom severity, psychotherapy process, and outcome. *Professional Psychology: Research & Practice, 19*, 560-564.

Edwards, R. (1998). The effects of gender, gender role, and values on the interpretation of messages. *Journal of Language & Social Psychology, 17*, 52-71.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Egert, J. R. (2000). Psychological well-being following breast cancer treatment. *Dissertation Abstracts International, 60* (08), 4219B.

Ekstein, R. (1974). Psychoanalytic theory: Sigmund Freud. In B. Arthur (Ed.), *Operational theories of personality* (pp. 230-306). Oxford, England: Brunner/Mazel.

Elliot, R. (1985). Helpful and nonhelpful events in brief counseling interviews. An empirical taxonomy. *Journal of Counseling Psychology, 32*, 307-322.

Evans, N. S. (1976). Mourning as a family secret. *Journal of the American Academy of Child Psychiatry, 15*, 502-509.

Farne, M. A., & Jimenez-Munoz, N. (2000). Personality changes induced by autogenic training practice. *Stress Medicine, 16*, 263-268.

Fava, G. A. (1996). The concept of recovery in affective disorders. *Psychotherapy and Psychosomatics, 65*, 2-13.

Fava, G. A., Rafanelli, C., Cazzaro, M., Conti, S., & Grandi, S. (1998). Well-being therapy: A novel psychotherapeutic approach for residual symptoms of affective disorders. *Psychological Medicine, 28*, 475-480.

Fava, G. A., & Ruini, C. (2003). Development and characteristics of a well-being enhancing psychotherapeutic strategy: Well-being therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 32*, 45-63.

Fehr, S. S. (2003). *Introduction to group therapy: A practical guide* (2nd ed.). New York, NY: Haworth Press, Inc.

Fichter, M. M., & Quadflieg, N. (2000). Change of personality traits in the course of inpatient therapy. *Verhaltenstherapie, 10*, 166-176.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Finkenauer, C. (1999). Investigating the link between secrecy and health: Empirical findings and theoretical implications. *Gedrag & Gezondheid: Trijdschrift voor Psychologie & Gezondheid, 27*, 2-7.

Fishbein, M. J., & Laird, J. D. (1979). Concealment and disclosure: Some effects of information control on the person who controls. *Journal of Experimental Social Psychology, 15*, 114-121.

Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology, 59*, 715-723.

Follette, V. M., Alexander, P. C., & Follette, W. C. (1991). Individual predictors of outcome in group *treatment for incest survivors. Journal of Consulting and Clinical Psychology, 59*, 150-155.

Fong, M. L., & Cox, B. G. (1983). Trust as an underlying dynamic in the counseling process: How clients test trust. *Personnel and Guidance Journal, 63*, 163-166.

Frazier, P. A., & Burnett, J. W. (1994). Immediate coping strategies among rape victims. *Journal of Counseling and Development, 72*, 633-639.

Freeman, A., & Rosenfield, B. (2002). Modifying therapeutic homework for patients with personality disorders. *Journal of Clinical Psychology, 58*, 513-524.

Freud, S. (1914). *Psychopathology of Everyday Life*. Oxford, England: Macmillan.

Friedlander, M. L., & Schwartz, G. S. (1985). Toward a theory of strategic self-presentation in counseling and psychotherapy. *Journal of Counseling Psychology, 32*, 483-501.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Friedman, H. S., Hall, J. A., & Harris, M. J. (1985). Type A behavior: Non-verbal expressive style and health. *Journal of Personality and Social Psychology, 48*, 1299-1315.

Frieswyk, S. H., Allen, J. G., Colson, D. B., Coyne, L., Gabbard, G. O., Horwitz, L., & Newsom, G. (1986). Therapeutic alliance: Its place as a process and outcome variable in dynamic psychotherapy research. *Journal of Consulting and Clinical Psychology, 54*, 32-38.

Folkman, S., & Lazarus, R. S. (1986). Coping as a mediator of emotion. Journal of *Personality and Social Psychology, 54*, 466-475.

Fostner, J. J. (1997). The relationship between meaning of illness and coping in HIV-positive patients. *Dissertation Abstracts International, 58* (04), 2673B.

Fowles, D. C. (1980). The three arousal model: Implications of Gray's two-factor theory for heart rate, electrodermal activity, and psychopathology. *Psychophysiology, 17*, 87-104.

Garfield, S. L. (1994). Research on client variables in psychotherapy. In Bergin, A.E., & Garfield, S. L. (Eds.), *Handbook of psychotherapy and behavior change, 4th edition* (pp.229-269). New York: John Wiley & Sons, Inc.

Garfield, S. L., & Kurz, M. (1952). Evaluation of treatment and related procedures in 1216 cases referred to a mental hygiene clinic. *Psychiatric Quarterly, 26*, 414-424.

Gaston, L., & Marmar, C. R. (1990). *Manual for the California Psychotherapy Alliance Scales*. Unpublished Manuscript.

Gershefski, J. J., Amkoff, D. B., Glass, C. R., & Elkin, I. (1996). Clients' perceptions of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

treatment for depression: I. helpful aspects. *Psychotherapy Research, 6*, 233-247.

Gesell, S. B. (1999). The roles of personality and cognitive processing in secret keeping (anxiety). *Dissertation Abstracts International, 60* (06), 2971B.

Gladis, M. M., Glosh, E. A., Dishuk, N. M., & Crits-Cristoph, P. (1999). Quality of life: Expanding the scope of clinical significance. *Journal of Consulting and Clinical Psychology, 67*, 320-331.

Goldfried, M. R. (1982). On the history of therapeutic integration. *Behavior Therapy, 13*, 572-593.

Goldman, R. N. (1998). Change in thematic depth of experiencing and outcome in experiential Psychotherapy. *Dissertation Abstracts International, 58* (10), 5643B.

Goodstein, L. D., & Reinecker, V. M. (1974). *Factors affecting self-disclosure: A review of the literature*. New York: Academic Press.

Gray, J. (1975). *Elements of a two-process theory of learning*. New York: Academic Press.

Gurman, A. S. (1977). The patient's perception of the therapeutic relationship. In A. S. Gurman & A. M. Razin (Eds.), *Effective psychotherapy: A handbook of research* (pp. 129-145). Oxford: Pergamon.

Haas, E., Hill, P. D., Lambert, M. J., Morell, B. (2002). Do early responders to psychotherapy maintain treatment gains? *Journal of Clinical Psychology, 58*, 1157-1172.

Halpern, T. P. (1977). Degree of client disclosure as a function of past disclosure, counselor disclosure, and counselor facilitativeness. *Journal of Counseling* Psychology, 24, 41-47.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Hansen, N. B., & Lambert, M. J. (1996). Brief report: Assessing clinical significance using the Inventory of Personal Problems. *Assessment, 3*, 133-136.

Harber, K, D., & Pennebaker, J. W. (1992). Overcoming traumatic memories. In S. Christianson (Ed.), *The handbook of emotion and memory: Research and theory* (pp. 359-387). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Harkness, A. R., & McNulty, J. L. (2002). Implications of personality individual differences science for clinical work on personality disorders. In Costa, P. T. Jr., & Widiger, T. A. (Eds.), *Personality disorders and the five-factor model of personality (2nd ed.)* (pp. 391-403). Washington, DC: American Psychological Association.

Harris, S. M., Dersch, C. A., & Mittal, M. (1999). Look who's talking: Measuring self-disclosure in MFT. *Contemporary Family Therapy, 21, 405-415.*

Harvey, J. H., Stein, S. K., Olsen, N., & Roberts, R. J. (1995). Narratives of loss and recovery from a natural disaster. *Journal of Social Behavior and Personality, 10*, 313-330.

Hatfield, E., Traupmann, J., & Sprecher, S. (1984). Older women's perceptions of their intimate relationships. *Journal of Social and Clinical Psychology, 2*, 108-124.

Hemmings, A. (2000). A systematic review of the effectiveness of brief psychotherapies in primary health care. *Families, Systems, and Health, 18*, 279-313.

Hendrick, S. S. (1987). Counseling and self-disclosure. In V. J. Derlega & J. H. Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 303-327). New York: Plenum Press.

Hill, C. E. (1986). An overview of the Hill counselor and client verbal response modes

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

category systems. In L. S. Greenberg & W. M. Pinsof (Eds.), *The psychotherapeutic process: A research handbook* (pp. 131-160). New York: Guilford.

Hill, C. E., Gelso, C. J., & Mohr, J. J. (2000). Client concealment and self-presentation in therapy: Comment on Kelly (2000). *Psychological Bulletin, 126*, 495-500.

Hill, C. E., Helms, J. E., Tichenor, V., Spiegel, S. B., O'Grady, K. E., & Perry, E. S. (1988). The effects of therapist response modes in brief psychotherapy. *Journal of Counseling Psychology, 35*, 222-233.

Hill, C. E., Thompson, B. J., Cogar, M. C., & Denman, D. W. (1993). Beneath the surface of long-term therapy: Therapist and client report of their own and each other's covert processes. *Journal of Counseling Psychology, 40*, 278-287.

Hill, C. E., Thompson, B. J., & Corbett, M. M. (1992). The impact of therapist ability to perceive displayed and hidden client reactions on immediate outcome in first sessions of brief therapy. *Psychotherapy Research, 2*, 143-155.

Hilseroth, M. J., Ackerman, S. J., & Blagys, M. D. (2001). Evaluating the phase model of change during short-term psychodynamic psychotherapy. *Psychotherapy Research, 11*, 29-47.

Hoffart, A., & Sexton, H. (2002). The role of optimism in the process of schema-focused cognitive therapy of personality problems. *Behaviour Research & Therapy, 40*, 611-623.

Horowitz, M. J. (1976). *Stress response syndromes*. New York: Jason Aronson.

Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. *Journal of Counseling Psychology,*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

38, 139-149.

Howard, K. I., Davidson, C. V., O'Mahoney, M. T., Orlinsky, D. E. & Brown, K. P. (1989). Patterns of psychotherapy utilization. *American Journal of Psychiatry, 146*, 775-778.

Howard, K. I., Kopta, S. M., Krause, M. J. & Orlinsky, D. E. (1986). The dose-effect relationship in psychotherapy. *American Psychologist, 41*, 159-164.

Hoyt, M. F. (1978). Secrets in psychotherapy: Theoretical and practical considerations. *International Review of Psychoanalysis,* 5, 231-241.

Hoyt, M. F., Marmar, C. R., Horowitz, M. J., & Alvarez, W. F. (1981). The Therapist Action Scale and the Patient Action Scale: Instruments for the assessment of activities during dynamic psychotherapy. *Psychotherapy: Theory, Research, and Practice, 18*, 109-116.

Hurley, A. D., & Hurley, F. J. (1987). Psychotherapy and counseling II: Establishing a therapeutic relationship. *Psychiatric Aspects of Mental Retardation Reviews, 6*, 15-20.

Hymer, S. (1982). The therapeutic nature of confessions. *Journal of Contemporary Psychotherapy, 13,* 129-143.

Ichiyama, M. A., Colbert, D., Laramore, H., Heim, M., Carone, K., & Schmidt, J. (1993). Self-concealment and correlates of adjustment in college students. *Journal of College Student Psychotherapy, 7*, 55-68.

Jacobson, N. S., Follette, W. C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy, 15*, 336-352.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Jacobson, N. S., & Revenstorf, D. (1988). Statistics for assessing the clinical significance of psychotherapy techniques: Issues, problems, and new developments. *Behavioral Assessment. Special Issue: Defining clinically significant change, 10,* 133-145.

Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Application of the schema construct. *Social Cognition, 7,* 113-136.

Jensen, M. R. (1987). Psychobiological factors predicting the course of breast cancer. *Journal of Personality, 55,* 317-342.

Jones, E. E., Cummings, J. D., & Horowitz, M. J. (1988). Another look at the nonspecific hypothesis of therapeutic effectiveness. *Journal of Consulting and Clinical Psychology, 56,* 48-55.

Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (Vol 1, pp. 231-252). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Jourard, S. M. (1971). *The transparent self.* New York: Van Nostrand Reinhold.

Jourard, S. M. (1964). *The transparent self: Self-disclosure and well-being.* Princeton, NJ: Van Nostrand.

Jourard, S. M. (1959). Self-disclosure and other cathexis. *Journal of Abnormal and Social Psychology, 59,* 428-431.

Kagan, J. (1994). *Galen's prophecy: Temperament in human nature.* New York: Basic Books.

Kahn, J. H. Distress disclosure and social desirability (August, 2002). *Poster session presented at the 110th Annual Convention of the American Psychological*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Association, Chicago, IL.

Kahn, J. H., Achter, J. A., & Shambaugh, E. (2001). Client distress disclosure, characteristics at intake, and outcome in brief counseling. *Journal of Counseling Psychology, 48*, 203-211.

Kahn, J. H., & Hessling, R. M. (2001). Measuring the tendency to conceal versus disclose psychological distress. *Journal of Social and Clinical Psychology, 20*, 41-65.

Kahn, J. H., & Kelly, A. E. (1998). *Dimensions of self-concealment*. Unpublished manuscript. Illinois State University.

Kaufman, M. B. (1998). Effects of therapist self-monitoring on therapeutic alliance and subsequent therapeutic outcome. *Dissertation Abstracts International, 58* (11), 6237B.

Katon, W., & Roy-Byrne, P. P. (1991). Mixed anxiety and depression. *Journal of Abnormal Psychology, 100*, 337-345.

Kazdin, A. E. (1998). *Research design in clinical psychology* (3rd ed.). Needham Heights, MA: Allyn & Bacon, Inc.

Kelly, A. E. (2002). *The psychology of secrets*. New York: Plenum.

Kelly, A. E. (2000). Helping construct desirable identities: A self-presentational view of psychotherapy. *Psychological Bulletin, 126*, 475-494.

Kelly, A. E. (1998). Client secret-keeping in outpatient therapy. *Journal of Counseling Psychology, 45*, 50-57.

Kelly, A. E., & Achter, J. A. (1995). Self-concealment and attitudes toward counseling in university students. *Journal of Counseling Psychology, 42*, 40-46.

Kelly, A. E., Kahn, J. H., Coulter, R. G. (1996). Client self-presentation at intake.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Journal of Counseling Psychology, 43, 300-309.

Kelly, A. E., Klusas, J. A., von Weiss, R. T., & Kenny, C. (2001). What is it about revealing secrets that is beneficial? *Personality and Social Psychology Bulletin, 27*, 651-665.

Kelly, A. E., & McKillop, K. J. (1996). Consequences of revealing personal secrets. *Psychological Bulletin, 120*, 450-465.

Kelly, A. E., McKillop, K. J., & Neimeyer, G. J. (1991). Effects of counselor as audience on internalization of depressed and non-depressed self-presentations. *Journal of Counseling Psychology, 38*, 126-132.

Kelly, A. E., von Weiss, R., & Kenny, C. (1996). *Preferred confidants and their feedback.* Unpublished manuscript, University of Notre Dame, Notre Dame, IN.

Kennedy, S., Kiecolt-Glaser, J. K., & Glaser, R. (1990). Social support, stress, and the immune system. In B. R. Saranson, I. G. Saranson, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 253-266). New York: Wiley.

Kessler, R. C., Price, R. H., & Wortman, C. B. (1985). Social factors in psychopathology: Stress, social support, and coping processes. *Annual Review of Psychology, 36*, 531-572.

King, L. A., Emmons, R. A., & Woodley, S. (1992). The structure of inhibition. *Journal of Research in Personality, 26*, 85-102.

Kissen, D. M. (1966). The significance of personality in lung cancer in men. *Annals of the New York Academy of Science, 125*, 820-826.

Knox, S., Hess, S., Petersen, D., & Hill, C. E. (1997). A qualitative analysis of client perceptions of the effects of helpful therapist self-disclosure in long-term therapy.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Journal of Counseling Psychology, 44, 274-283.

Koerlin, D., & Wrangsjoe, B. (2001). Gender differences in outcome of guided imagery and music (GIM) therapy. *Nordic Journal of Music Therapy, 10*, 132-143.

Kopta, S. M., & Lowry, S. L. (2002). Psychometric evaluation of the Behavioral Health Questionnaire-20: A brief instrument for assessing global mental health and the three phases of psychotherapy outcome. *Psychotherapy Research, 12*, 413-426.

Kopta, S. M., Lueger, R. J., Saunders, S. M., & Howard, K. I. (1999). Individual psychotherapy outcome and process research: Challenges leading to greater turmoil or a positive transition? *Annual Review of Psychology, 50*, 441-469.

Kordy, H., von Rad, M., & Senf, W. (1988). Time and its relevance for a successful psychotherapy. *Psychotherapy & Psychosomatics, 49*, 212-222.

Kowalski, R. M. (1999). Speaking the unspeakable: Self-disclosure and mental health. In R. M. Kowalski & M. R. Leary (Eds.), *The social psychology of emotional and behavioral problems: Interfaces of social and clinical psychology* (pp. 225-247). Washington, DC: American Psychological Association.

Krause, A. M., & Long, B. M. (1993). Predictors of coping for mothers of separated/ divorced offspring. *Canadian Journal on Aging, 12*, 50-66.

Kush, F. R., & Sowers, W. (1997). Acute dually diagnosed inpatients: The use of self-report symptom severity instruments in persons with depressive disorders and cocaine dependence. *Journal of Substance Abuse Treatment, 14*, 61-66.

Kushner, M. G., & Sher, K. L. (1989). Fear of psychological treatment and its relation to mental health service avoidance. *Professional Psychology: Research and Practice, 20*, 251-257.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Lambert, M. J. (1983). Introduction to assessment of psychotherapy outcome: Historical perspective and current issues. In M. J. Lambert, E. R. Christensen, & S. S. DeJulio (Eds.), *The assessment of psychotherapy outcome* (pp. 3-32). New York: Wiley-Interscience.

Lambert, M. J., & Bergin, A. E. (1994). The effectiveness of psychotherapy. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change, 4th edition* (pp. 143-189). New York: John Wiley & Sons, Inc.

Lambert, M. J., DeJulio, S. S., & Stein, D. M. (1978). Therapist interpersonal skills: Process, outcome, methodological considerations, and recommendations for future research. *Psychological Bulletin, 85*, 467-489.

Lane, J. D., & Wegner, D. M. (1995). The cognitive consequences of secrecy. *Journal of Personality and Social Psychology, 69*, 237-253.

Larson, D. G. (1993). Self-concealment: Implications for stress and empathy in oncology care. *Journal of Psychosocial Oncology, 11*, 1-16.

Larson, D. G., & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social and Clinical Psychology, 9*, 439-455.

Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.

Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-*component model. Psychological Bulletin, 107*, 34-47.

Lebow, J. L. (1983). Research assessing consumer satisfaction with mental health

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

treatment: A review of findings. *Evaluation & Program Planning, 6*, 211-236.

Lehman, D. R., Ellard, J. H., & Wortman, C. B. (1986). Social support for the bereaved: Recipients' and providers' perspectives on what is helpful. *Journal of Consulting and Clinical Psychology, 54*, 438-446.

Lehman, D. R., Wortman, C. B., & Williams, A. (1987). Long-term effects of losing a spouse or child in a motor vehicle crash. *Journal of Personality and Social Psychology, 52*, 218-231.

Levine, J. L., Stoltz, J. A., & Lacks, P. (1983). Preparing psychothrapy clients: Rationale and suggestions. *Professional Psychology: Research & Practice, 14*, 317-322.

Levy, R. I. (1983). Social support and compliance: A selective review and critique of treatment integrity and outcome measurement. *Social Science Medicine, 17*, 1329-1338.

Lewis, M. (1992). *Shame: The exposed self.* New York: The Free Press.

Lopez, F. G. (2001). Adult attachment orientations, self-other boundary regulation, and splitting tendencies in a college sample. *Journal of Counseling Psychology, 48*, 440-446.

Luborsky, L., Crits-Christoph, P., Mintz, J. & Auerbach, A. (1988). *Who will benefit from psychotherapy? Predicting therapeutic outcomes.* New York: Basic Books.

Luborsky, L., Singer, B., & Luborsky, L. (1975). Comparative studies of psychotherapies: Is it true that "everyone has won and all must have prizes"? *Archives of General Psychiatry, 32*, 995-1008.

Macdonald, A. J. (1994). Brief therapy in adult psychiatry. *Journal of Family Therapy, 16*, 415-426.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

MacKenzie, K. R. (1987). Therapeutic factors in group psychotherapy: A contemporary view. *Group, 11*, 26-34.

Mahrer, A. R., & Nadler, W. P. (1986). Good moments in psychotherapy: A preliminary review, a list, and some promising research avenues. *Journal of Consulting and Clinical Psychology, 54*, 10-15.

Margolis, G. (1974). The psychology of keeping secrets. *International Review of Psychoanalysis, 1*, 291-296.

Margolis, G. (1966). Secrecy and identity. *International Journal of Psychoanalysis, 47*, 517-522.

McNair, D. M., Lorr, M. & Callahan, D. M. (1963). Patient and therapist influences on quitting psychotherapy. *Journal of Consulting Psychology, 27*, 10-17.

McNally, R. J. (2002). Anxiety sensitivity and panic disorder. *Biological Psychiatry, 52*, 938-946.

Melinger, G. D., Balter, M. B., Manheimer, D. I., Cisin, I. H., & Parry, H. J. (1978). Psychic distress, life crisis, and use of psychotherapeutic medications. *Archives of General Psychiatry, 35*, 1045-1052.

Michenbaum, D. (1977). *Cognitive-behavior modification: An integrative approach.* New York: Plenum Press.

Mikulincer, M., & Nachshon, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality & Social Psychology, 61*, 321-331.

Miller, J. B. (1984). *The development of women's sense of self.* Wellesley,MA: Stone

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Center Working Paper Series.

Miller, L. C., Berg, J. H., & Archer, R. L. (1983). Openers: Individuals who elicit intimate self-disclosure. *Journal of Personality and Social Psychology, 44*, 1234-1244.

Mitra, T., & Chattopadhyay, P. K. (2001). Drug induced behavioral changes in panic and mixed anxiety patients. *Psychological Studies, 46*, 52-57.

Moraru, E., Schnider, P., Wimmer, A., Wenzel, T., Birner, P., Griengl, H., & Auff, E. (2002). Relationship between depression and anxiety in dystonic patients: Implications for clinical management. *Depression and Anxiety, 16*, 100-103.

Morgan, H. J., & Janoff-Bulman, R. (1994). Positive and negative self-complexity: Patterns of adjustment following traumatic vs. non-traumatic life experiences. *Journal of Social and Clinical Psychology, 13*, 63-85.

Morrison, J. K., & Heeder, R. (1984). Feeling-expression ratings by psychotherapist as predictive of imaginary therapy outcome: A pilot study. *Imagination, Cognition, & Personality, 4*, 219-223.

Mowrer, O. H. (1964). *The new group therapy*. Princeton: Van Nostrand.

Napier, M. B. (2002). Staying connected: Incorporating a client centered nondirective attitude into the Stone Center's model of relational-cultural therapy. *Dissertation Abstracts International, 63* (04), 2067B.

Nunnally, J. C. (1978). *Psychometric theory (2nd ed.)*. New York: McGraw-Hill.

Oejehagen, A., Berglund, M., Appel, C-P., Nilsson, B., et al. (1992). A randomized study

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

of long-term patient treatment in alcoholics: Psychiatric treatment versus multimodal behavioural therapy, during 1 versus 2 years of treatment. *Alcohol & Alcoholism, 27*, 649-658.

Omarzu, J. (2000). A disclosure decision model: Determining how and when individuals will self-disclose. *Personality and Social Psychology Review, 4*, 174-185.

Orlinsky, D. E., Graw, K., & Parks, B. K. (1994). Process and outcome in psychotherapy – Noch einmal. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change, (4th ed.),* (pp 270-376). New York: Wiley.

Orlinsky, D. E., & Howard, K. I. (1986). Process and outcome in psychotherapy. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change (3rd ed.),* (pp. 311-381). New York: Wiley.

Patterson, D. R., & Sechrest, L. (1983). Nonreactive measures in psychotherapy outcome research. *Clinical Psychology Review, 3*, 391-416.

Paulhus, D. L. (2002). Socially desirable responding: The evolution of a construct. In H. I. Braun D. N. Jackson, et al. (Eds.), *The role of constructs in psychological and educational measurement* (pp. 37-48). Mahwah, NJ: Lawrence Erlbaum Associates.

Paulson, B. L., Truscott, D., & Smart, J. (1999). Clients' perceptions of helpful experiences in counseling. *Journal of Counseling Psychology, 46*, 317-324.

Pitman, R. K., Orr, S. P., Altman, B., & Longpre, R. E. (1996). Emotional processing and outcome of imaginal flooding therapy in Vietnam Veterans with chronic posttraumatic stress disorder. *Comprehensive Psychiatry, 37*, 409-418.

Pennebaker, J. W. (2003). Writing about emotional experiences as a therapeutic process.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In P. Salovey, & A. J. Rothman (Eds.), *Social psychology of health: Key readings in social psychology* (pp. 362-368). New York, NY: Psychology Press.

Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8*, 162-166.

Pennebaker, J. W. (1995). Emotion, disclosure, and health: An overview. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 3-10).Washington: American Psychological Association.

Pennebaker, J. W. (1993). Putting stress into words: Health, linguistic, and therapeutic implications. *Behavior Research and Therapy, 31*, 539-548.

Pennebaker, J. W. (1990). *Opening up: The healing power of confiding in others*. New York: Morrow.

Pennebaker, J. W. (1989). Confession, inhibition, and disease. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol 22, pp. 211-244). New York: Academic Press.

Pennebaker, J. W. (1985). Traumatic experience and psychosomatic disease: Exploring the roles of behavioral inhibition, obsession, and confiding. *Canadian Psychology, 26*, 82-95.

Pennebaker, J. W., & Beall, S. (1986). Cognitive, emotional, and physiological components of confiding: Behavioral inhibition and disease. *Journal of Abnormal Psychology, 95*, 274-281.

Pennebaker, J. W., & Chew, C. H. (1985). Deception, electrodermal activity, and the inhibition of behavior. *Journal of Personality and Social Psychology, 49*, 1427-1433.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Pennebaker, J. W., Colder, M., & Sharp, L. K. (1988). Accelerating the coping process. *Journal of Personality and Social Psychology, 58*, 528-537.

Pennebaker, J. W., Hughes, C. F., & O'Heeron, R. C. (1987). The psychophysiology of confession: Linking inhibitory and psychosomatic processes. *Journal of Personality and Social Psychology, 52*, 781-793.

Pennebaker, J. W., Kiecolt-Glaser, J. K., & Glaser, R. (1988). Disclosure of traumas and immune function: Health implications of psychotherapy. *Journal of Consulting and Clinical Psychology, 56*, 239-245.

Pennebaker, J. W., Mayne, T. J., & Francis, M. E. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology, 72*, 863-871.

Pennebaker, J. W., & O'Heeron, R. C. (1984). Confiding in others and illness rate among spouses of suicide and accidental death victims. *Journal of Abnormal Psychology, 93*, 473-476.

Pennebaker, J. W., & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology, 55*, 1243-1254.

Persons, J. B., Burns, D. D., & Perloff, J. M. (1988). Predictors of dropout and outcome in cognitive therapy for depression in a private practice setting. *Cognitive Therapy and Research, 12*, 557-575.

Persson, G., Alstroem, J. E., & Nordlund, C. L. (1984). Prognostic factors with four treatment methods for phobic disorders. *Acta Psychiatrica Scandinavica, 69*, 307-317.

Petrie, K. J., Booth, R. J., & Pennebaker, J.W. (1998). The immunological effects of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

thought suppression. *Journal of Personality and Social Psychology, 75*, 1264-1272.

Plotkin, D. A., & Wells, K. B. (1993). Partial hospitalization (day treatment) for psychiatrically ill elderly patients. *American Journal of Psychiatry, 150*, 266-271.

Prisbell, M., & Dallinger, J. M. (1991). The developmental nature of self-disclosure. *Psychological Reports, 68*, 211-214.

Prochaska, J. O., Norcross, J. C. & DiClemente, C. C. (1994). *Changing for good.* New York: Guilford Press.

Raesaeren, S., Nieminen, P., & Isohanni, M. (1999). Gender differences in treatment and outcome in a therapeutic community ward, with special reference to schizophrenic patients. *Psychiatry: Interpersonal & Biological Processes, 62*, 235-249.

Rawlins, W. K. (1992). *Friendship matters: Communication, dialectics, and the life course.* Communication and Social Order. Hawthorne, NY: Aldine de Gruyter.

Regan, A. M., & Hill, C. E. (1992). Investigation of what clients and counselors do not say in brief therapy. *Journal of Counseling Psychology, 39*, 168-174.

Reich, J. (2002). Drug treatment of personality disorder traits. *Psychiatric Annals, 32*, 590-596.

Rhodes, R. H., Hill, C. E., Thompson, B. J., & Elliot, R. (1994). Client retrospective recall of resolved and unresolved misunderstanding events. *Journal of Counseling Psychology, 41*, 473-483.

Rickwood, D. J., & Braithwaite, V. A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Social Science & Medicine, 39*, 563-572.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Ritz, T., & Dahme, B. (1996). Repression, self-concealment and rationality/emotional defensiveness: The correspondence between three questionnaire measures of defensive coping. *Personality and Individual Differences, 20*, 95-102.

Robins, C. J. (2002). Dialectical behavior therapy for borderline personality disorder. *Psychiatric Annals, 32*, 608-616.

Roethlisberger, F. J., & Dickson, W. J. (1939). *Management and the worker*. Oxford, England: Harvard University Press.

Rogers, C. (1957). The necessary and sufficient conditions of therapeutic personal change. *Journal of Counselling Psychology, 21*, 93-103.

Rogers, C. (1951). *Client-centered therapy*. Boston: Houghton Mifflin.

Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, NJ: Princeton University Press.

Russell, D. E. (1986). *The secret trauma: Incest in the lives of girls and women*. New York: Basic Books.

Rush, A.. J., & Beck, A. T. (1978). Cognitive therapy of depression and suicide. American Journal of Psychotherapy, 32, 201-219.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potential: A review of research on hedonic and eudaimonic well-being. Annual Review of Psychology, 52, 141-166.

Ryff, C. D., & Singer, B. H. (1996). Psychological well-being: Meaning, measurement and implications for psychotherapy research. *Psychotherapy and Psychosomatics, 65*, 14-23.

Saffer, J. B., Sansone, P., & Gentry, J. (1979). The awesome burden upon the child who

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

must keep a family secret. *Child Psychiatry and Human Development, 10*, 35-40.

Safran, J. D., & Wallner, L. K. (1991). The relative predictive validity of two therapeutic alliance measures in cognitive therapy. *Psychological Assessment, 3*, 188-195.

Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1990). Social support: The search for theory. *Journal of Social & Clinical Psychology, 9*, 133-147.

Schlenker, B. R. (1986). Self-identification: Toward an integration of the private and public self. In R. Baumeister (Ed.), *Public self and private self* (pp. 21-62). New York: Springer-Verlag.

Schlenker, B, R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization and model. *Psychological Bulletin, 92*, 641-669.

Schlenker, B. R., & Weigold, M. F. (1992). Interpersonal processes involving impression regulation and management. *Annual Review of Psychology, 43*, 133-1168.

Schwartz, G. S., Friedlander, M. L., & Tedeschi, J. T. (1986). Effects of attributional explanations and reasons for seeking help on counselors' impressions. *Journal of Counseling Psychology, 33*, 90-93.

Sells, S. P., Smith, T. E., & Moon, S. (1996). An ethnographic study of client and therapist perceptions of therapy effectiveness in a university-based training clinic. *Journal of Marital and Family Therapy, 22*, 321-242.

Shadish, W. R., Matt, G. E., Navarro, A. M., Siegle, G., et al. (1997). Evidence that therapy works in clinically representative conditions. *Journal of Consulting and Clinical Psychology, 65*, 355-365.

Shapiro, F. (1999). Eye movement desensitization and reprocessing (EMDR) and the anxiety disorders: Clinical and research implications of an integrated psychotherapy treatment. *Journal of Anxiety Disorders, 13*, 35-67.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Shapiro, D. A., & Shapiro, D. (1982). Meta-analysis of comparative therapy outcome studies: A replication and refinement. *Psychological Bulletin, 92*, 581-604.

Silver, Boon, & Stones, (1983). Searching for meaning in misfortune: Making sense of incest. *Journal of Social Issues, 39*, 81-101.

Silver, R. L., & Wortman, C. B. (1980). Coping with undesirable life events. In J. Garber & M. E. P. Segliman (Eds.), *Human helplessness: Theory and applications* (pp. 279-375). New York: Academic Press.

Smart, L., & Wegner, D. M. (1999). Covering up what can't be seen: Concealable stigma and mental control. *Journal of Personality and Social Psychology, 77*, 474-486.

Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist, 32*, 752-760.

Sohn, A, E, (2001). Patterns of self-disclosure and satisfaction in psychotherapy and marriage. *Dissertation Abstracts International, 62* (02), 1100B.

Spiegel, D. (1992). Effects of psychosocial support on patients with metastatic breast cancer. *Journal of Psychosocial Oncology, 10*, 113-120.

Stahler, G. J. (1983). An assessment of therapist rating bias and the Hawthorne effect in program evaluation. *Dissertation Abstracts International, 44* (01), 330B.

Stiles, W. B. (1995). Disclosure as a speech act: Is it psychotherapeutic to disclose? In J. W. Pennebaker (Ed.), *Emotion, disclosure, & health* (pp. 71-91). Washington, DC: American Psychological Association.

Stiles, W. B. (1987). "I have to talk to somebody": A fever model of disclosure. In V. J. Derlega & J. H. Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 257-282). New York: Plenum.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Stiles, W. B. (1986). Levels of intended meaning of utterances. *British Journal of Clinical Psychology, 25*, 213-222.

Stiles, W. B., Shapiro, D. A., & Elliot, R. (1986). "Are all psychotherapies equivalent?" *American Psychologist, 41*, 165-180.

Stiles, W. B., Shuster, P. L., & Harrigan, J. A. (1992). Disclosure and anxiety: A test of the fever model. *Journal of Personality and Social Psychology, 63*, 980-988.

Stokes, J. P. (1987). The relation of loneliness and self-disclosure. In V. J. Derlega & J. H. Berg (Eds.), *Self-disclosure: Theory, research and therapy* (pp. 175-202). New York: Plenum.

Stone, M. H. (2002). Treatment of personality disorders from the perspective of the five-factor model. In Costa, P. T. Jr., & Widiger, T. A. (Eds.), *Personality disorders and the five-factor model of personality (2nd ed.)* (pp. 405-430). Washington, DC: American Psychological Association.

Straits-Troster, K. (1993). Health consequences of loneliness, social support, and life adversity among HIV-infected men. *Dissertation Abstracts International, 54* (04), 2225B.

Swanson, L., & Biaggio, M. K. (1985). *Therapeutic perspectives on father-daughter incest. American Journal of Psychiatry, 142*, 667-674.

Szajnberg, N. (1988). The developmental continuum from secrecy to privacy in a psychodynamic milieu. *Residential Treatment for Children and Youth, 6*, 9-28.

Tait, R., & Silver, R. C. (1989). Coming to terms with major negative life events. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp.351-382). New York: Guilford.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Tannen, D. (1990). *You just don't understand: Women and men in conversation.* New York: William Morrow.

Tarrier, N., Sommerfield, C., Pilgrim, H. & Faragher, B. (2000). Factors associated with outcome of cognitive-behavioural treatment of chronic post-traumatic stress disorder. *Behaviour Research & Therapy, 38*, 191-202.

Taube, C. A., Burns, B. J., & Kessler, L. (1984). Patients of psychiatrists and psychologists in office-based practice: 1980. *American Psychologist, 39*, 1435-1447.

Taylor, S. E., & Armour, D. A. (1996). Positive illusions and coping with adversity. *Journal of Personality, 64*, 873-898.

Taylor, S. E., & Brown, J. D. (1994). Positive illusions and well-being revisited: Separating fact from fiction. *Psychological Bulletin, 116*, 21-27.

Taylor, S., & McLean, P. (1993). Outcome profiles in the treatment of unipolar depression. *Behavioral Research Therapy, 31*, 325-330.

Thoits, P. (1982). Conceptual, methodological and theoretical problems in studying social support as a buffer against life stress. *Journal of Health and Social Behavior, 23*, 145-149.

Tingey, R., C., Lambert, M. M., Burlinghame, G. M., & Hansen, N. B. (1996). Assessing clinical significance: Proposed extensions to method. *Psychotherapy Research, 6*, 109-123.

Tolstedt, B. E., & Stokes, J. P. (1984). Self-disclosure, intimacy, and the depenetration process. *Journal of Personality and Social Psychology, 46*, 84-90.

Towbin, A. P. (1978). The confiding relationship: A new paradigm. *Psychotherapy:*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Theory, Research and Practice, 15, 333-343.

Trant, L. (1990). Relationships among therapist personality type, therapeutic style and client characteristics. *Dissertation Abstracts International, 50* (11), 5337B.

Trop, J. L., & Stolorow, R. D. (1997). Therapeutic empathy: An intersubjective perspective. In A. C. Bohart & L. S. Greenberg (Ed.), *Empathy reconsidered: New directions in psychotherapy* (pp. 279-291). New York: Guilford.

Tschuschke, V., & Dies, R. R. (1997). The contribution of feedback to outcome in long-term group psychotherapy. *Group, 21*, 3-15.

Tschuschke, V., & Dies, R. R. (1994). Intensive analysis of therapeutic factors and outcome in long-term inpatient groups. *International Journal of Group Psychotherapy, 44*, 185-208.

Tschuschke, V., McKenzie, K. R., Haaser, B., & Janke, G. (1996). Self-disclosure, feedback and outcome in long-term inpatient psychotherapy groups. *Journal of Psychotherapy Practice and Research, 5*, 35-44.

Vail, A. (1978). Factors influencing lower class black patients remaining in treatment. *Journal of Consulting and Clinical Psychology, 46*, 341.

Vangelisti, A. L. (1994). Family secrets: Forms, functions, and correlates. *Journal of Social and Personal Relationships, 11*, 113-135.

Vangelisti A. L., & Caughlin J. P. (1997). Revealing family secrets: The influence of topic, function, and relationships. *Journal of Social and Personal Relationships, 14*, 679-705.

Vondracek, F. W. (1969). The study of self-disclosure in experimental interviews. *Journal of Psychology, 72*, 55-59.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Vrij, A., Nunkoosing, K., Paterson, B., Oosterwegel, A., & Soukara, S. (2002). Characteristics of secrets and the frequency, reasons and effects of secrets keeping and disclosure. *Journal of Community and Applied Social Psychology, 12*, 56-70.

Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review, 101*, 34-52.

Wegner, D. M., & Erber, R. (1992). The hyperaccessibility of suppressed thoughts. *Journal of Personality and Social Psychology, 63*, 903-912.

Wegner, D. M., & Gold D. B. (1995). Fanning old flames: Emotional and cognitive effects of suppressing thoughts of a past relationship. *Journal of Personality and SocialPsychology, 68*, 782-792.

Wegner, D. M., & Lane, J. D. (1995). From secrecy to psychopathology. In. J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 25-46). Washington: American Psychological Association.

Weinberger, D. A., Schwartz, G. E., & Davidson, R. J. (1979). Low anxious, high anxious, and repressive coping styles: Psychometric patterns and behavioral and physiological responses to stress. *Journal of Abnormal Psychology, 88*, 369-380.

Wilson, T. D., Dunn, D. S., Kraft, D., & Lisle, D. J. (1989). Introspection, attitude change, and attitude-behavior consistency: The disruptive effects of explaining why we feel the way we do. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, (Vol. 19, pp. 123-205). Orlando, FL: Academic Press.

Windholz, M. J., & Silberschatz, G. (1988). Vanderbilt Psychotherapy Process Scale: A replication with adult outpatients. *Journal of Consulting and Clinical Psychology, 56*, 56-60.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Winston, A., & Muran, J. C. (1996). Common factors in the time limited psychotherapies. *American Psychiatric Press Review of Psychiatry, 15*, 43-65.

Woods, K. M., & McNamara, J. R. (1980). Confidentiality: Its effect on interviewee behavior. *Professional Psychology: Research & Practice, 11*, 714-721.

Woodward, R., & Jones, R. B. (1980). Cognitive restructuring treatment: A controlled trial with anxious patients. *Behavior Research & Therapy, 18*, 401-407.

Wortman, C. B., & Dunkel-Schetter, C. (1979). Interpersonal relationships and cancer: A theoretical analysis. *Journal of Social Issues, 35*, 120-155.

Wright, T. L., Ingraham, L. J., Chemtob, H. J., & Perez-Arce, P. (1985). Satisfaction and things not said: Clinical tools for group therapists. *Small Group Behavior, 16*, 565-572.

Yalom, I. D. (1995). *The theory and practice of group psychotherapy* (4th ed.). New York: Basic Books.

Yalom, I. D. (1985). *The theory and practice of group psychotherapy* (3rd ed.). New York: Basic Books.

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Appendix A

Client-Rated Problems

Problem Area	N
Depression/ suicidal	260
Anxiety/ panic/ phobias	259
Family relationships	246
Academic/ vocational issues	205
Partner relationship/ break-up	168
Interpersonal difficulties/ social isolation	162
Anger control	114
Past emotional abuse	112
Obsessive thoughts/ compulsive behaviors	99
Physical illness/ chronic pain	56
Past sexual abuse	55
Psychiatric history	55
Sexuality	54
Eating disorder	54
Past physical abuse	51
Alcoholism/ substance abuse (self)	38
Alcoholism/ substance abuse (family/other)	37
Sexual assault	33
Bereavement/ separation/ loss	33
Cultural adjustment	29
Pregnancy/ abortion	19

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Appendix F

Therapist Rating of Client Change

Rating of Overall Changes Since the Beginning of Therapy:

Much Improved		Unchanged		Much Worse
1	2	3	4	5

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Figure 1.

Calculation of Clinical Significant Reductions of Distress based on the SCL-90-R Global Severity Index (Tingey et al., 1996)

RCI's for Normative Sample Pairs on the SCL-90-R Global Severity Index

SCL-90-R GSI Pre-Test Score		SCL-90-R GSI Post-Test Score: 0 Asymptomatic	0.23 Mild	0.51 Moderate	0.97 Severe
	Severe 0.97	0.40	0.42	0.43	0.56
	Moderate 0.51	0.23	0.26	0.31	0.43
	Mild 0.23	0.16	0.21	0.26	0.42
	Asymptomatic 0	0.11	0.17	0.23	0.40

Requirements:

1. SCL-90-R GSI post-test score must be in a lower normative sample than SCL-90-R post-test score.
2. The difference between the SCL-90-R GSI post-test score and the SCL-90-R GSI pre-test score must exceed the minimum RCI cutoff.

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VITA AUCTORIS

Nicole Wild was born on September 14, 1976 in Toronto, Ontario. She graduated from Applewood Heights Secondary School in 1995. From there, she continued her studies at University of Toronto, where she graduated with a Bachelor of Science Honours degree (psychology specialist) in 1999. She received her Masters of Arts degree in Clinical Psychology from the University of Windsor in 2001 and currently is a doctoral candidate at the same institution.

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