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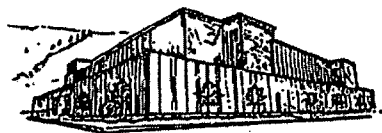
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Running head: SELF-EFFICACY AS A PREDICTOR OF SKILLS USE

Self-efficacy as a Predictor of Skills Use and as a Treatment Outcome Measure for  
Dialectical Behavior Therapy Skills Training Modules

By

Christopher S. Miller

B.A. The University of Dayton

Presented in partial fulfillment of the requirements

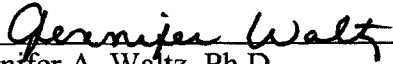
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Self-efficacy as a Predictor of Skills Use and as a Treatment Outcome Measure for Dialectical Behavior Therapy Skills Training Modules

Chairperson: Jennifer A. Waltz, Ph.D.



Dialectical Behavior Therapy (DBT) is a manual-based treatment for individuals with Borderline Personality Disorder (BPD) that includes a skills training component. The development and utilization of new skills to regulate emotions more adaptively is a central component of the treatment. Past research in the area of health behaviors has found that a person's sense of self-efficacy influences the initiation, adoption, and maintenance of health behaviors (Bandura, 1977).

The current study addresses the role of self-efficacy in the process of learning behavioral skills in DBT. The purposes of the study were to examine 1) if a skills training intervention can increase skill self-efficacy, and 2) if self-efficacy predicts subsequent skills use. Additionally, the relationship between self-efficacy and symptoms of psychopathology, such as depressed mood and addictive behaviors, was examined. The study included 34 subjects, ages 23 to 67 years old, who met criteria for BPD. Subjects were randomly assigned to either a treatment or a control group. All subjects completed the DBT Skills Self-Efficacy Scale (SSES) as a pretest and post-test measure. At each experimental session the treatment group viewed one of three videotapes that demonstrated specific DBT skills: one video explained reality acceptance skills and two videos explained crisis survival skills. Subjects in the control group viewed a series of psychoeducational videotapes. At the end of each experimental session, subjects again completed the subscale of the DBT SSES that was associated with the video that was viewed. Experimental subjects were given a homework assignment to engage in the skills they had learned that session. Skills behaviors used during the week were assessed at the subsequent session. The results generally supported the hypothesis that the skills training intervention would increase skills self-efficacy, with the exception of the first crisis survival skills module. Level of self-efficacy did not predict skill utilization. Discussion of the findings provides insight into the complex relationship between self-efficacy for skill use and treatment outcome in DBT skills training.

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Self-efficacy as a Predictor of Skills Use and as a Treatment Outcome Measure for  
Dialectical Behavior Therapy (DBT) Skills Training

*Introduction and Background: The Concept of Personal Control*

The concept of personal control has existed for over half a century and has emerged as a component of a powerful theory in health promotion psychology. Simply stated, personal control is an individual's beliefs about how effectively he or she can produce positive events and avoid negative events (Peterson & Stunkard, 1989). Both theory (Bandura, 1977, 1991, 1997, 1999; Peterson & Stunkard, 1989, 1992) and research (Bandura, 1982; Bandura & Adams 1977; O'Leary, 1985) suggest that beliefs about personal control determine future behavior because they influence an individual's (a) intention to engage in a behavior, (b) effort expended on that behavior, and (c) persistence when facing difficulties. The stronger one's sense of personal control, the more invested and engaged one's efforts to surmount difficulties become.

The construct of personal control may serve as a basic underpinning for behavior change theories, particularly those related to increased health behaviors. It provides an opposing supposition to mechanistic theories that posit individuals as passive organisms that behave in biologically and environmentally determined ways (Peterson & Stunkard, 1989). Indeed, the concept of personal control postulates that individuals are proactive agents that determine how they are shaped by external events.

Social psychologists have argued that individuals are not mere passive observers of their environment; rather they seek to influence and control it (Lewin, 1936). Heider (1958) argued for an agentic perspective of human functioning with what he called the *can* of behavior, referring to an individual's relatively stable relationship with his or her

environment, including the ability to respond and determine if he or she could repeat a given task. Perhaps the most noteworthy contribution to the development of the personal control construct was White's (1959) seminal paper regarding *competence*. He argued that an individual's competence allows him or her to interact and influence the environment, and the motivation to feel and be competent and efficacious he defined as *effectance motivation*. Furthermore, White stated that an individual's effective interaction with his or her world produces a feeling of *efficacy* (1959). Lewin's (1936) perspective of personal control empowering individuals, Heider's (1958) concept of the can, and White's (1959) notions regarding an individual's competence and effectance motivation leading to a sense of efficacy, are all precursors of the construct of personal control that are concerned with an individual's mastery of his or her environment.

Early theorists (Heider, 1958; Lewin, 1936) initially perceived the notion of personal control as an individual's mastery of the environment, and attaining this mastery was conceived of as a need or drive. For an individual to cope effectively with the world, he or she needed to satisfy the need to control or influence the environment (Peterson & Stunkard, 1989). With the advent of cognitive perspectives in psychology, new theories incorporated the mental component of humans that had previously been ignored in the traditional stimulus-response or needs and drives perspectives. An individual's effectance was viewed as a belief or expectation, rather than as a motivation, suggesting biological connotations (Peterson & Stunkard, 1989). This shift in focus meant de-emphasizing drives to control the environment and emphasizing beliefs about whether or not one could control the environment.

Because personal control includes an individual's beliefs that he or she can produce positive events and minimize negative events, the concept has broad applications. Research has shown personal control is related to increased coping and adaptation, positive mental and physical health, and optimism and vigor (Peterson & Stunkard, 1989). An individual's sense of personal control may serve as the basic impetus, as well as the continuing force, for behavior change, particularly regarding those behaviors aimed at promoting health (O'Leary, 1985; Peterson & Stunkard, 1989). Therefore, as an idea that has grown out of the work on personal control, self-efficacy is a valued construct for research and clinical practice concerned with health promotion.

#### *History of Self-efficacy: Bandura*

Self-efficacy is the belief that one is capable of performing the behaviors required to produce a desired outcome (Bandura, 1977). For example, a student with high self-efficacy regarding academics is likely to believe he or she is able to master academic demands and is likely to succeed in his or her studies. Conversely, a student with low self-efficacy regarding performance in school is likely to believe he or she is incapable of being successful in academic pursuits, with the likely result of failure.

Self-efficacy was integrated as a core aspect in social cognitive theory, which posits that individuals are agentic operators that function through the bi-directional influencing determinants of internal personal factors (e.g., cognitive, affective, and biological events), behavioral patterns, and environmental events (Bandura, 1999). The relative influence of personal factors, behavioral patterns, and environmental events is dependent upon activities, situational circumstances, and social limitations and opportunities. Furthermore, social cognitive theory asserts that individuals are not only

agentic operators, but also have the capability for self-referent thoughts that influence motivation, affect, and action. Bandura (1977) stated that the most pervasive and central of these self-referent thoughts is one's judgments of personal efficacy. It is one's efficacy beliefs, according to Bandura (1977), that form the foundation for human agency.

#### *General Self-efficacy vs. Task-specific Self-efficacy*

There are two ways to conceptualize self-efficacy. First, self-efficacy may be understood as a personality construct that is stable across situations (Shelton, 1990; Sherer, Maddux, Mercamante, Prentice-Dunn, Jacobs, & Rogers, 1982a). For example, an individual who generally has high self-efficacy will feel confident across areas of life. In contrast, task-specific self-efficacy (TSSE) is defined as more situation-specific. For example, an individual with high task-specific self-efficacy for one activity will have high self-efficacy in a similar, closely related activity, but not necessarily in others. To illustrate, an individual with high general self-efficacy (GSE) possesses an overall belief that he or she can effectively solve difficult problems, stick to goals and objectives or remain calm when faced with unforeseen circumstances. Compare this example of GSE with the example of TSSE for repairing a car's transmission, where the individual possesses the belief that he or she is capable of effectively performing the necessary behaviors to fix an automobile's transmission.

Self-efficacy is most frequently discussed and researched with reference to specific domains. In other words, self-efficacy is commonly conceptualized as an individual's beliefs regarding his or her abilities in particular situations or for specific behaviors, as in TSSE. There exists a great deal of research regarding the positive effects

of TSSE for increasing health behavior, including work in areas such as smoking cessation (e.g., Baer & Lichtenstein, 1988; Devins & Edwards, 1988; Kavanagh, Pierce, Lo, & Shelley, 1993) and physical exercise (e.g., Weiss, Wiese, & Klint, 1989).

A possible rationale for how research has historically conceptualized the construct of self-efficacy in terms of task-specific behavior or situation specific behavior as opposed to GSE is the preference of researchers to look for specific rather than general explanations (Dutton & Brown, 1997) for behavior change. Therefore, self-efficacy is generally understood and studied in terms of domain specificity. However, research by Tipton and Worthington (1984) supported the generality of self-efficacy by testing coping behavior in one setting that was similar to, but not the same as, the original field of mastery experiences. Although they did not investigate the generalizability of self-efficacy to unrelated situations, Tipton and Worthington (1984) “concluded that self-efficacy gained from mastery experiences with one situation generalizes to other similar situations” (p. 545).

Global measures of GSE are often viewed as poor predictors of specific intentions and behaviors because of the lack of adherence to the principle of compatibility (Ajzen, 1988). However, Ajzen (1988) also argued that psychologists should not focus primarily on individual’s actions on specific occasions, but rather concentrate on assessing for “regularities in behavior, consistent patterns of action, (and) response tendencies” (p.46). In this vein, several researchers (e.g., Schwarzer & Fuchs, 1996; Shelton, 1990; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982b) have provided theoretical and methodological contributions to the notion of self-efficacy as a global construct. This generalized sense of self-efficacy refers to a global confidence in one’s

coping abilities across a wide range of demanding or novel situations (Scholz, Dona, Sud, & Schwarzer, 2002; Sherer et al., 1982a).

GSE is concerned with a wide and constant sense of personal abilities to successfully navigate a variety of stressful or taxing situations. It has been theorized that there are differences in individual's GSE expectancies and such differences have behavioral correlates (Sherer et al., 1982b). Specifically, Sherer and his colleagues (1982b) propose that an individual's history of successful and unsuccessful experiences across a broad range of settings should create generalized expectations that the individual then applies to novel situations. An individual's expectation of personal mastery in new situations would be influenced by these generalized expectations. Shelton (1990) posited that the value an individual places on a given experience would affect the degree to which TSSE will contribute to GSE. Additionally, other researchers (e.g., Shelton, 1990; Watt & Martin, 1994) have asserted that individuals use GSE as a form of information when they make an estimate of TSSE, supporting the statement that GSE serves to influence specific intentions and behaviors through TSSE. However, TSSE will most likely remain a stronger predictor of specific intentions and behaviors than GSE. The nature of GSE is that it is an aggregate measure of one's ability to handle various situations. Therefore, GSE does not describe the wide variations in behavior by the same individual engaged in a certain activity under different circumstances that the construct of TSSE is capable of explaining. Because TSSE provides a more sensitive and explicit measure of an individual's belief that he or she can be effective in a given domain, it is the preferred way to conceptualize the construct of self-efficacy. For these reasons, TSSE and not GSE, will be used in this study to measure subjects' self-efficacy.



### *Outcome Expectancies and Self-efficacy Expectancies*

Bandura's (1977) social cognitive theory posits that human motivation and action are extensively regulated by forethought. This preemptive control mechanism includes three types of expectancies: 1) situation-outcome expectancies, in which environmental factors and not personal action create consequences; 2) action-outcome expectancy referring to consequences as a result of personal action; and 3) perceived self-efficacy, also called self-efficacy expectancies, which is an individual's belief in his or her capabilities to perform a given action required to achieve a desired outcome (Schwarzer & Fuchs, 1996). Outcome expectancies (situation and action types) and perceived self-efficacy are instrumental in adopting health behaviors, eradicating maladaptive behaviors, and maintaining change (Schwarzer & Fuchs, 1996).

Outcome expectancies are differentiated from perceived self-efficacy because an individual can believe a certain environment or behavior will produce a desired result; however, if the individual possesses serious doubt regarding his or her own ability to perform that behavior, then the strength of outcome expectancies is diminished. For example, an individual may possess the belief that attending a prestigious university (situation-outcome expectancies) and studying diligently (action-outcome expectancy) will result in a successful career; however, that same individual may have low perceived self-efficacy and doubt his or her chances of being accepted into a prestigious university and his or her ability to study assiduously.

### *Measurement of Self-efficacy Expectancies*

Self-efficacy expectancies can be characterized and measured in terms of three parameters: magnitude, strength, and generality (Bandura, 1977, 1982). "Magnitude"

refers to one's best possible performance. That is, an individual's magnitude of self-efficacy expectancy may be limited to simple acts, include more challenging tasks, or extend into the most difficult performances. Thus, to measure perceived self-efficacy, subjects are presented with a list of tasks graded in difficulty and are asked to judge those tasks they believe they can perform. For example, presenting people with a list of increasingly difficult math problems and asking them to rate those problems they are capable of performing is used as a means to measure the magnitude of self-efficacy for mathematics.

"Strength" refers to one's confidence in estimating his or her performance. For example, for each task in a list that the individual identified as capable of achieving, he or she rates how certain he or she is of the ratings. "Generality" refers to the number of domains of functioning in which people judge themselves to be efficacious. For example, an individual who has high self-efficacy for skiing may also indicate a high self-efficacy for ice-skating. Bandura (1977) suggested that while some experiences result in confined mastery experiences, other experiences "instill a more generalized sense of efficacy that extends well beyond the specific treatment situation" (p. 194). Therefore, from a health behaviors perspective, an individual's efficacy expectations for one domain (e.g., healthy interpersonal skills) may generalize to other domains (e.g., effective emotional regulation).

#### *Acquisition of Self-efficacy Expectancies*

Why do certain individuals develop high self-efficacy while others do not? Bandura (1977) proposed that expectancies of self-efficacy are based on four primary sources of information: performance accomplishments, vicarious experiences, verbal

persuasion, and physiological feedback. Performance accomplishments refer to an individual's personal experiences of mastery. The more mastery experiences a person has, the higher his or her expectations of future mastery. Repeated failures generally serve to lower such expectations. Additionally, repeated successes tend to strengthen self-efficacy expectancies and protect the individual from the negative impact of occasional failures.

Observing others also influences a sense of self-efficacy. When individuals see others performing threatening activities without negative consequences, they are likely to develop a sense that they too will succeed if they work hard and persist in their efforts (Bandura, 1977). Bandura states that because vicarious experiences rely on suppositions based on social comparisons, they are less accurate sources of information regarding one's capabilities than the direct evidence of personal accomplishments. Therefore, efficacy expectancies generated only through modeling and observation are likely to be weaker and more vulnerable to change compared to those expectancies generated through performance accomplishments. Modeled behaviors that have clear outcomes provide better efficacy information than if the effects of the modeled behavior are ambiguous. Additionally, an observers' self-efficacy is more likely to be influenced if a number of different models with a variety of characteristics are observed.

Verbal persuasion is commonly used in efforts to influence human behavior because it is easy to use and accessible. Suggestions from others can make individuals believe they are capable of successful coping (Bandura, 1977). Because of the lack of direct experience involved, verbal persuasion is a weaker source for generating efficacy expectancies than experiences that involve personal accomplishments. Invalidating

experiences can contradict and discredit mastery experiences that are produced through verbal persuasion. While verbal persuasion alone is limited in creating a sense of personal efficacy, individuals that are persuaded that they have the ability to master challenging situations and are provided with conditions that facilitate effective performance are more likely to put forth greater effort than those just provided with performance aids (Bandura, 1977).

Physiological arousal provides people with information about their anxiety and vulnerability to stress. Because high arousal typically results in poor performance (although there is generally a curvilinear relationship involved), success is more likely assumed when one is not feeling anxious or vulnerable. Emotional arousal, for example based on fear about one's inabilities, can operate in a self-perpetuating manner and result in creating levels of anxiety that may exceed the level of fear one might experience in the actual situation had he or she not experienced high emotional arousal.

Of these four factors, performance accomplishments are considered to exert the greatest influence on behavioral change because they are based on personal mastery experiences (Bandura, 1977). Individuals are more likely to engage in behavioral change and feel committed to their actions if they perceive themselves as effective agents of change. For example, a carpenter who is experientially involved in the construction of a house is influenced to a greater extent by personal performance than someone who simply observed others build a house. An individual's success raises mastery expectations, and repeated failures lower them, especially if setbacks occur early in the course of events (Bandura, 1977). Additionally, developing a strong sense of self-efficacy as a result of repeated success results in occasional failures having a diminished

effect. To this end, overcoming occasional failures through sustained effort can bolster an individual's motivation to persist in the face adversity.

### *Self-efficacy and Health Behaviors*

Research shows a significant correlation between presence of perceived self-efficacy and adoption of health behaviors in areas such as smoking-cessation, pain management, eating, recovery from myocardial infarction, and adherence to preventative health programs (O'Leary, 1985). Perceived self-efficacy has also been found to be a powerful personal resource in coping with stress (Lazarus & Folkman, 1987).

Additionally, developers of addiction and relapse models (e.g. Marlatt, Baer, & Quigley, 1999; Schwarzer & Fuchs, 1999) have identified perceived self-efficacy as a necessary component for coping with high-risk situations and reinstating learned skills when a relapse has occurred.

An individual's self-efficacy expectancies are related to the likelihood that an individual will adopt a valued health behavior or alter an unhealthy behavior (Legnager, Kraft, & Røysamb, 2000). Bandura (1977) postulated that self-efficacy expectancies are a more powerful influence than outcome expectancies in determining behavior change because such self-efficacy expectancies determine the initial decision to perform a behavior, the effort expended, and the persistence in adverse conditions. An individual with a belief that he or she is capable of effectively creating an event is more likely to assume an active role in determining that event. For example, an individual who believes he or she can stop drinking is more likely to quit drinking than an individual who does not believe he or she can stop drinking. This active role fosters a sense of *can*, as Heider (1958) referred to it, and instills in an individual a sense of control over his or her

environment. This feeling of empowerment fosters the belief of being able to master challenging situations by means of adaptive action. Additionally, a self-determined perspective such as this might be regarded as a component of an optimistic view of an individual's ability to effectively cope with stressful situations (Seligman, & Csikszentmihlyi, 2000).

Individuals interested in changing a behavior initially develop an intention, followed by attempts to perform the action (Prochaska, DiClemente, & Norcross, 1992). For example, individuals intending to quit smoking first tell themselves they want to stop smoking and then engage in activities to achieve that goal, such as throwing out the carton of cigarettes. Outcome expectancies play a vital role in the conception of an intention to change, such as the smoker believing he or she can actually quit smoking; however, they are less instrumental in the action one decides to take. On the other hand, perceived self-efficacy appears to operate as a force in both the forming of an intention to act and the actual action itself (Schwarzer & Fuchs, 1996). In the current example, perceived self-efficacy helps the person both believe he or she can quit smoking and take action by throwing out the carton of cigarettes.

While one may decide to change a behavior based on an expected beneficial outcome, engaging in, and maintenance of, the actual behavior presents a new problem in which perceived self-efficacy continues to exert influence as a controlling factor. Therefore, the person may use outcome expectancies to decide to stop smoking because he or she believes doing so will decrease the likelihood of heart disease; however, a person's ability to throw out the carton of cigarettes and refrain from purchasing more cigarettes is largely controlled by his or her perceived self-efficacy.

Essentially, for an individual to adopt a health behavior it is not sufficient simply to imagine positive outcomes as is suggested in some approaches to intervention in health behavior and sports (Schwarzer & Fuchs, 1996). Rather, one must also believe he or she is capable of performing the required behavior. This is the inherent utility of perceived self-efficacy. An individual wishing to initiate change using outcome expectancies faces a difficult task because change is often uncomfortable and involves much effort to alter an existing behavior and replace it with a new behavior. Additionally, maintaining such changes using perceived self-efficacy presents additional challenges, in the form of temptations to relapse into the old behavior as well as the effort needed to maintain a change in behavior. Therefore, Schwarzer and Fuchs (1996) suggest the probability that an individual will initiate a health behavior and refrain from health-impairing behaviors is dependent upon the expectancy that one is at risk, the expectancy that changing one's behavior will reduce that risk, and the expectancy that one is capable of implementing positive behaviors or reducing negative behaviors. Perceived self-efficacy facilitates such processes. For example, the chances of a smoker starting to exercise and refrain from smoking is dependent upon the expectation that he or she is at risk for heart disease, the hope that exercising will reduce the chances of heart disease, and the belief that he or she is capable of exercising and refraining from smoking.

#### *Addictions Models: Marlatt*

Within the addictive behaviors field, perceived self-efficacy has been posited to be an important factor in the change process for substance abusers. Self-efficacy beliefs are unique because they are instrumental in the initial development of an addictive habit, as well as influential in the process of behavior change that incorporate both cessation of

the habit and maintenance of abstinence (Prochaska et al., 1992; Marlatt et al., 1999). For example, the person in the acquisition and modification stage of a habit, say smoking, is faced with the decision to start to smoke or not (initiation). The person uses perceived self-efficacy judgments such as “Can I perform like a smoker? Am I capable of inhaling without choking?” to determine if he or she will initiate smoking or not. For a smoker, the decision to attempt to quit (modification) is also influenced by perceived self-efficacy for ability to successfully stop smoking and continue to refrain from smoking. The theoretical construct of perceived self-efficacy has been accepted as a vital component in addiction and relapse models (Marlatt et al., 1999; Schwarzer & Fuchs, 1996, 1999). Such theories presuppose that successfully coping with high-risk situations is contingent upon one’s belief in ability to control actions and regain control if it is lost. The addictions model proposed by Marlatt et al. (1999) explores the manner in which self-efficacy theory applies to change in addictive behavior.

Marlatt et al. (1999) proposed a typology of five categories of efficacy beliefs that play a critical role in addictive behavior change. These five beliefs influence both the initiation and subsequent change of an addictive behavior. As such, Marlatt et al.’s (1999) categories of efficacy beliefs are quite parallel to the transtheoretical model of change proposed by Prochaska et al. (1992). The efficacy beliefs within the initiation phase include (1) resistance self-efficacy, or judgments about one’s ability to avoid use prior to first use, and (2) harm-reduction self-efficacy, or judgments about one’s ability to reduce the risk of harm following first use. The efficacy beliefs within the behavior change stage include (3) action self-efficacy, or beliefs about one’s ability to achieve the desired goal of abstinence or controlled use, which is different from efficacy for long-



term maintenance of achieved change. Long-term maintenance efficacy consists of (4) coping self-efficacy, which refers to anticipatory efficacy to cope with relapse crisis, and (5) recovery self-efficacy that involves restorative coping following lapse and relapse episodes. Each of the categories is associated with one's motivation and prevention of addictive behaviors and will be described later in greater detail. Additionally, it may be helpful to conceptualize action self-efficacy, coping self-efficacy, and recovery self-efficacy within the "stages of change" model proposed by Prochaska et al. (1992), but first it is necessary to further define each type of Marlatt et al.'s (1999) self-efficacy.

Marlatt et al.'s (1999) five categories of self-efficacy beliefs for addictive behaviors function within two distinct phases that make up an addictive behavior pattern. The first phase, primary prevention, occurs *before* an addictive behavior has been established and is concerned with the individual's initial use or experimentation. Consequently, this stage includes resistance self-efficacy and harm-reduction self-efficacy. Resistance self-efficacy refers to an individual's perceived ability to resist pressure to drink or use drugs. Harm reduction self-efficacy is employed once drug use has been initiated and the goal is to control the amount of potential harm. After an addictive behavior has been established, the person is past the primary prevention phase and the aim is no longer efficacy for abstinence of the drug. Rather, during the second phase, secondary prevention is concerned with the efficacy to reduce the amount of harm one experiences. The second phase includes action, coping, and recovery self-efficacies. The goal in this second phase is to limit the degree of harm the individual experiences as a result of drug use through teaching moderation and potentially abstinence.

Research shows that low resistance self-efficacy along with social influences that support drug use predict both intentions and actual use of alcohol and tobacco by adolescents (Conrad, Flay, & Hill, 1992). Once an individual has started using a drug, the person employs harm-reduction self-efficacy. The goal of harm-reduction self-efficacy is instilling confidence to minimize the risk of ongoing drug use by reducing the amount used or stopping continued abuse. Therefore, using resistance and harm-reduction self-efficacies facilitates primary prevention of addictive behaviors.

The second phase includes the behavior of individuals who have moved past the initial development stage and have established an addictive behavior; secondary prevention in this phase aims to minimize the amount of harm an individual experiences in continued drug use (Marlatt et al., 1999). Secondary prevention includes action self-efficacy, which involves a person's belief that he or she has the ability to change and abstain from engaging in unhealthy behaviors. It also includes coping self-efficacy or a person's ability to anticipate and cope with a relapse crisis. If a relapse does occur, recovery self-efficacy during secondary prevention involves a person's ability to care for her or himself. Each of these self-efficacies from the behavior change stage proposed by Marlatt et al. (1999) can be conceptualized within the useful paradigm of the "stages of change" model developed by Prochaska et al. (1992).

In the stages of change model individuals in the precontemplation stage, those not considering change, may decide not to engage in any attempt to change (Prochaska et al., 1992). Once individuals move from precontemplation into the contemplation stage, they consider altering their behavior. Within the contemplation stage, outcome expectancy self-efficacy can exert a powerful influence in prompting individuals considering

behavior change. As individuals sustain high levels of self-efficacy and continue to consider behavior change, they move into the preparation and action stages of habit change. According to Marlatt et al. (1999), self-efficacy for action to reduce or eliminate an addictive behavior is a vital factor, starting with a commitment to action. Marlatt et al. (1999) stated that in the maintenance stage, both coping self-efficacy (confidence in one's ability to resist relapse) and recovery self-efficacy (confidence in one's ability to recover from a lapse or setback) are crucial. Bandura (1991) wrote:

Perceived efficacy can affect every phase of personal change- whether people even consider changing their health habits, whether they can enlist the motivation and perseverance needed to succeed should they choose to do so, and whether they adequately maintain the changes they have achieved. (p. 258)

Marlatt et al.'s (1999) conception of action self-efficacy is the first category of efficacy used in the secondary prevention stage. Obstacles in achieving action self-efficacy do exist. Individuals with an addictive behavior may remain stuck in the precontemplation or contemplation stage of change. Precontemplators may not progress because they believe it is not possible for them to quit their habit and therefore not even try to stop. Also, it may be that these individuals do not want to change. Contemplators may delay any initial action to change because they may not have the efficacy to change. Once action is initiated, moderation or controlled use may be considered early goals for the initial action, with abstinence perhaps becoming the eventual goal for changing addictive behavior. In terms of the addiction model postulated by Marlatt et al. (1999), the goals of abstinence and moderation are referred to as action self-efficacy.

After moving through the action stage and into the maintenance stage, an individual's goal becomes long-term maintenance of abstinence by implementing the second category of efficacy beliefs, coping self-efficacy. High-risk situations that tempt individuals to relapse are controlled for by effective use of coping strategies. Individuals coping with high-risk situations, urges, and temptations employ relapse prevention strategies designed to enhance self-efficacy (Chaney, O'Leary, & Marlatt, 1978).

In the maintenance stage of behavioral change, individuals sometimes experience lapses or setbacks. Individuals in such circumstances rely on their sense of recovery self-efficacy. How one reacts to these setbacks influences his or her strength of efficacy and could potentially lead either to relapse or to rejecting any additional behavior change. If lapse occurs, an individual may attribute it to internal, stable, or uncontrollable factors (i.e., lack of will power), leading the person to dramatize the event and interpret it as full-blown relapse. This pattern is referred to as the abstinence violation effect (Collins & Lapp, 1991). High self-efficacy individuals avoid the abstinence violation effect by finding ways to control damage once it has occurred and restore hope that they can continue to remain abstinent in future high-risk situations. To this extent, self-efficacy for recovery of abstinence after initial lapse should theoretically promote long-term maintenance. According to Marlatt et al. (1999) relapse prevention strategies include procedures to enhance recovery efficacy. Mistakes are a common event in the process of habit change and, therefore should not be viewed as failures.

According to Marlatt et al. (1999), research demonstrates that self-efficacy is a consistent and significant factor in attempts to cease addictive behaviors (action self-efficacy), success in initial attempts to stop (coping self-efficacy), and relapse (recovery

self-efficacy). Self-efficacy is appealing to psychology from a health behavior perspective because interventions that focus on increasing clients' self-efficacy may influence their decisions to initiate and maintain healthy behaviors. Therefore, it is not surprising that the construct has been adopted into most health behavior theories (Schwarzer and Fuchs, 1999).

Marlatt et al. (1999) suggested developing treatment plans focus on facilitating a strong sense of personal efficacy by incorporating methods of self-efficacy acquisition, namely using performance accomplishments, vicarious experiences, verbal persuasion, and physiological feedback. Additionally, assessing levels of self-efficacy in clients provides valuable information about what stage of change they are currently in. Effective use of such information includes matching treatment with the client's stage by determining whether one is in precontemplation and resistant to change or whether one is in the maintenance stage and at risk for relapse. Finally, knowing a client's efficacy level can provide clinicians with information regarding which particular times or places pose high risk for clients. For example, an individual in the maintenance stage may require tailored treatment plans that focus on coping self-efficacy skills for particular situations.

Perceived self-efficacy has become a widely applied theoretical construct in the addictive behaviors field (Marlatt, et al., 1999; O'Leary, 1985; Schwarzer & Fuchs, 1999). These theories assert that self-efficacy acts as a powerful influence in behavior change. Successfully resisting drug use, minimizing harm once drug use has been initiated, action to stop or moderate drug use, coping with long-term abstinence, and recovering from relapse are dependent upon an individual's beliefs that they are agentic operators of their own actions. The behavior change model of addiction proposed by

Marlatt et al. (1999) is based on the assumption that individuals progress through different stages of change, and that specific categories of self-efficacy operate in these stages of change.

### *Borderline Personality Disorder*

#### *Overview of the Disorder*

Borderline Personality Disorder (BPD) is frequently diagnosed in clinical settings and continues to be one of the most researched personality disorders in terms of its phenomenology, biological markers, treatment response, family history, and outcome (Kavoussi, Coccaro, Klar, Bernstein, & Siever, 1990). Individuals who suffer from BPD display great instability, including major changes in mood, an unstable self-image, and impulsive behavior. These characteristics oftentimes lead to unstable interpersonal relationships.

#### *Diagnostic Features*

Criteria for BPD in the *DSM-IV-TR (Diagnostic and Statistical Manual-fourth edition-text revised*, American Psychiatric Association, 2000) are organized around patterns of behavioral, emotional, and cognitive instability and dysregulation. Marsha Linehan (1993) has reorganized, but not redefined, *DSM-IV-TR* signs and symptoms of BPD in terms of the concept of dysregulation. The five domains of dysregulation include interpersonal dysregulation, behavioral dysregulation, emotional dysregulation, cognitive dysregulation, and self-dysfunction.

Individuals with BPD show a variety of interpersonal problems. For example, interpersonal dysregulation may take the form of intense, conflict-ridden relationships with deep feelings that are not shared by the other person in the relationship. Individuals

with BPD sometimes express intimate details to others they don't know well, demand a great deal of time from the other person, and idealize others within the first or second meeting. This pattern of behavior is reflective of one BPD criterion, namely frantic efforts to avoid real or imagined abandonment (American Psychiatric Association, 2000). Individuals with BPD may challenge and violate boundaries in a relationship. The *DSM-IV-TR* (American Psychiatric Association, 2000) states that although individuals with BPD display short tempers, with outbursts of anger within relationships, they continue to remain in relationships out of fear of being abandoned. Regardless of whether or not this fear of abandonment is real or imagined, persons with BPD may make frenzied efforts to avoid being left and experiencing the potential associated feeling of being a "bad" person.

Behavioral dysregulation includes impulsivity as a prominent characteristic. Impulsivity can manifest in gambling, reckless driving, promiscuity, substance abuse, and reckless spending of money (American Psychiatric Association, 2000). Although these behaviors are damaging, a more dangerous display of impulsivity for sufferers is recurrent self-mutilating or self-harming behaviors. Frequently, fear of separation serves as the impetus for suicide attempts. Actual suicide attempts and self-injurious acts, such as self-mutilation and self-inflicted burns, with little or no intent to cause death are defined as parasuicidal behaviors (Kreitman, 1977). These behaviors frequently occur during moments of disassociation. Such maladaptive behaviors may serve to reaffirm the individual's capacity to feel, or to dispel notions of being an "evil" person.

Emotional dysregulation relates to individuals with BPD experiencing intense mood swings in and out of very depressed, anxious, and irritable states that can last a few days or more (American Psychiatric Association, 2000). They live in a world that

appears always to be in conflict with their emotions. Some persons with BPD express anger in the form of violent or physically aggressive behaviors. Anxiety, irritability, and dysphoria are also among the mood states that persons with BPD experience with great intensity. However, these extreme episodes typically only last a few hours, and on rare occasions persist for more than a few days (American Psychiatric Association, 2000). Interruptions to these episodes are characterized by displays of anger, panic, or despair without the reprieve from such feelings as gratification or contentment. It is common for stress to incite these mood episodes, particularly stress in the interpersonal facets of the sufferer's life.

Chronic feelings of emptiness affect some people with BPD. This can lead them to engage in the habitual pattern of thrill seeking behaviors and dangerously impulsive decision-making (American Psychiatric Association, 2000). Along with the feelings of emptiness, individuals with BPD commonly convey inappropriate anger and struggle to manage their expressions of sarcasm, resentment, or derision. These episodes are oftentimes connected with the sufferer perceiving a caregiver as being neglectful. These expressions of anger may result in the individual feeling guilty or embarrassed, strengthening maladaptive thoughts that they are inherently bad persons.

Cognitive dysregulation as a domain of BPD includes depersonalization, dissociative symptoms or paranoid ideation. These forms of thought dysregulation sometimes appear during periods of extreme stress and dissipate once the stress is ameliorated.

A possible symptom of BPD that is included in the self-dysfunction category changes in beliefs, values, and career choices. These changes also involve the



individual's sexual identity and the type of friends they choose. Frequently, people with BPD have a feeling that they do not exist at all. In contrast, they can alter their relationship role from a dependent, clinging individual to a zealous advocate out to aid those in need.

Although the presentation of BPD varies significantly between individuals, a core constellation of BPD symptoms that, according to Linehan (1993), reflect affect dysregulation is often observed in individuals with the disorder. In addition to depression, cognitive distortions are common as part of the cluster of displayed symptoms. Examples of these cognitive distortions include odd experiences, superstitious beliefs, and magical thinking (Gunderson & Zanarini, 1987). Additional research has postulated anxiety, depression, and low self-esteem as cognitive-affective components of BPD (Leibowitz, 1984; Verhulst, 1984).

#### *Prevalence*

BPD is estimated to be present in roughly 2% of the general population, approximately 10% of individuals in outpatient mental health centers, and about 20% of psychiatric inpatients (American Psychiatric Association, 2000). Of individuals with a personality disorder, 30% to 60% are diagnosed with BPD, according to the American Psychiatric Association (2000). An estimated 75% of people diagnosed with BPD are females (American Psychiatric Association, 2000).

#### *Barriers to Treatment*

Like many other personality disorders, BPD is difficult to treat for several reasons, including the fact that it is a chronic disorder. Other reasons include the continual emotional instability and unstable relationships, the pattern of impulsivity with reckless

unhealthy behaviors, and the high rate of parasuicide and suicide behaviors. Finally, individuals with BPD commonly meet criteria for other Axis I disorders such as substance abuse, depression, and post-traumatic stress disorder (PTSD).

### *Theories of Etiology*

Several theories of etiology attempt to explicate the complexities of BPD. One prominent theory that suggests a disturbed caregiver-child relationship as a pathogenesis of BPD is Object Relations Theory (Westen & Gabbard, 1999). This theory represents a major development in psychodynamic theory within the past 30 years that has provided an etiological explanation for BPD. The term “object relations” has several meanings, yet, most broadly, the term refers to enduring patterns of interpersonal functioning in intimate relationships and the cognitive and affective processes mediating those patterns (Westen & Gabbard, 1999). Object Relations Theory emphasizes the effects that deprivation of healthy human contact has during infancy and early childhood, the importance of self-representations and representations of others (called “object representations”) as factors that influence interpersonal functioning, and the basic need for human connectedness that begins in infancy.

Under healthy developmental conditions, it is theorized that the caregiver allows the child to explore and separate in an effort to prompt the child to synthesize the different “good” and “bad” selves into one whole. By providing this experience for the child, “object constancy” is created. If the caregiver prevents the child from separating, the “pleasure ego” does not convert into the “healthy” or “reality ego” (Gibson, 1990). Although the child’s desire to separate from the caregiver is a healthy biological drive, the caregiver might interpret such behavior as a personal threat (Gibson, 1990).

Masterson (1978) theorized that if development is arrested between the 18<sup>th</sup> and 36<sup>th</sup> month, Mahler's separation-individuation phase, the representations of self and object becomes polarized, that is, all good or all bad. Essentially, this can occur if the caregiver is not able to tolerate separation or abandonment and communicates to the child that he or she must remain attached to the caregiver or die (Bersin, 1994). As a result, the caregiver responds by withdrawing affection and thereby creating a feeling of abandonment and anxiety in the child. This response establishes a pattern of dependence in the child. Because the child never learns to assimilate or integrate the bad object and the good object, he or she develops a dichotomous thinking pattern as a defense against reality. This form of dysfunctional development is labeled splitting, and "from a psychodynamic point of view is a product of the irresolvable conflict between intense negative and positive emotions" (Linehan, 1993, p. 35).

Object relations theory posits that once the child moves into adolescence, the healthy developmental process requires transference of satisfied libido needs by the parent to fulfilling of such needs by a mate that will eventually lead to assuming the independence necessary in adulthood (Gibson, 1990). Adolescents sometimes struggle with feelings of growing autonomy that can be equated with abandonment and depression and that conflict with the desire for feelings of closeness from his or her parents. In a failed effort to protect against depression and anxiety that result from these feelings of dissonance, adolescents may employ defense mechanisms such as denial and projection, as well as adopting polarized thinking methods. Consequently, he or she may resort to behaviors that are characteristic of individuals with BPD including affective instability as

a result of discernible reactive mood and an unstable sense of self-image or sense of self (American Psychiatric Association, 2000).

The preceding description establishes an etiological basis of BPD due to a caregiver's overinvolvement with the child to fulfill his or her own needs. There is also a second theoretical explanation that exists for the development of BPD. Several psychodynamic theorists (e.g., Adler & Buie, 1979; Kohut, 1971; Winnicott, 1991) assert that a mother or other caregiver serves as an external validator and regulator of a young child's needs and impulses. If a child has a caregiver that models a stable, nurturing environment, then the child is able to develop internal monitoring and satisfaction of impulses and an internal sense of worth. However, if the caregiver fails to provide a validating, nurturing and reinforcing environment, the result can be an undeveloped sense of self worth that typifies the individual with BPD. Consequently, the individual continually seeks involvement in relationships in or to feel validated, maintains a confused state regarding his or her own identity, and resorts to scanning the environment for cues on how to act and what to think and feel (Linehan, 1993). Therefore, within the psychodynamic theory of Object Relations a potential second pathogenic element of a mother's interaction with her child (in addition to overinvolvement) is the lack of appropriate responsiveness to the child's impulses and needs (Bezirgian, Cohen, & Brook, 1993). Such inappropriate responsiveness may be conceptualized as a caregiver's inconsistent parenting of the child.

Psychodynamic theories (e.g., Adler & Buie, 1979; Masterson, 1978) converge on the assumption that significant deficits exist for individuals with BPD in the area of interpersonal relationships, particularly in regard to separation-individuation. The

individual with BPD experiences feelings of emptiness, anxiety, isolation, and a loss of sense of self as a result of an inability to internalize primary mother-child caring.

Empirical results from a study conducted by Bezirgian and her colleagues (1993) show “the combined effect of maternal inconsistency and maternal overinvolvement accounted for the effect of poor maternal ego integration on the development of Borderline Personality Disorder in the child” (p. 1841). Such findings suggest that it is the pattern of caregiver-child interaction as an environmental factor that may be responsible in transmitting the disorder from one generation to the next.

In addition to the psychodynamic perspective, another etiological theory for BPD is the biosocial perspective (Linehan, 1993). The biosocial theory posits that BPD is a result of both biological irregularities and dysfunctional environments, and their interaction over time, ultimately resulting in a dysfunction in the emotion regulation system (Linehan, 1993). The symptoms of BPD are viewed as a result of experiencing emotion dysregulation that is hypothesized to have a biological basis. Similar to the psychodynamic view discussed earlier that sees the mother as an external validator for the child, the biosocial perspective postulates that invalidating environments prevent a child from learning how to label and regulate arousal, how to tolerate emotional distress, and also learning when to believe in his or her own emotional responses to events as valid interpretations of events (Linehan, 1993).

Within the biosocial model, individuals with BPD are seen as influenced during adulthood by their childhood invalidating environment, and consequently they invalidate their own emotional experiences, look to others for cues regarding correct reflections of reality, and have a tendency to oversimplify problems. Because these individuals

oversimplify their problems, they typically set unrealistic goals, have difficulty using reward rather than punishment for small accomplishments, and engage in self-hate when failing to achieve their goals. Individuals with BPD have this shame response engrained in them by their invalidating environment that censures them from expressing emotional vulnerability.

Biological underpinnings for the biosocial theory of BPD are unclear, but are believed to include disruptions in the limbic system, the brain system responsible for emotion regulation and attention control (Linehan, 1993). The emotion regulation system is complex, making it difficult to identify confidently a common variable associated with it as the cause for BPD. Biological causes could potentially include genetic heritability, harmful intrauterine factors that later influence behavioral patterns in individuals, or early childhood environmental events that effect the brain and nervous system development.

### *Self-efficacy and Mental Disorders*

#### *Self-efficacy and Depression*

Research findings suggest that a correlation exists between self-efficacy and depression. A study conducted by Tucker, Brust, and Richardson (2002) involving psychiatric inpatients diagnosed with a depressive disorder found that those individuals with high levels of self-efficacy displayed fewer observer-rated psychiatric symptoms at admission and discharge compared with subjects with low self-efficacy. While depressed individuals often display reduced levels of self-efficacy (Cane & Gotlib, 1985; David & Yates, 1982; Zeiss, Lewinsohn, & Munoz, 1979), the specifics of the relationship are uncertain: depressed mood may reduce self-efficacy, low self-efficacy may produce sad feelings, or differences in accomplishments may serve to induce depression and lower

levels of self-efficacy. Kavanagh (1992) suggests that mood states, judgments about one's self-efficacy, and one's performance all function simultaneously and influence each other reciprocally. Bandura (1982) describes how diminished personal self-efficacy may cause depression:

When people have a low sense of personal efficacy and no amount of effort by themselves or comparative others produces results, they become apathetic and resigned to a dreary life. The pattern in which people perceive themselves as ineffectual but see similar others enjoying the benefits of successful effort is apt to give rise to self-disparagement and depression. Evident successes of others make it hard to avoid criticism. (p. 141)

Mood states are postulated to affect self-efficacy both directly and via performance or accomplishments (Kavanagh, 1992). That is, an increase in an individual's sadness can have a direct effect of decreasing self-efficacy, and emotional states about one's performance or accomplishments can also affect self-efficacy indirectly. Individuals who feel depressed, anxious, or helpless typically demonstrate pessimistic thoughts regarding their accomplishments and personal development (Schwarzer & Fuchs, 1996).

Self-efficacy can also serve as a catalyst or an inhibitor regarding motivation to act. In other words, those individuals with high self-efficacy are likely to feel motivated to engage in more challenging activities and set higher goals. In contrast, depressed individuals with associated low self-efficacy often are not likely to feel motivated to take on challenging situations or set high goals (Kavanagh, 1992). If one takes the position that thoughts precede action, then an individual formulates optimistic or pessimistic thoughts about the actions he or she is about to take that reflect their level of self-

efficacy. Depressed individuals emphasize negative aspects of their experiences and evaluate their own performance more negatively (Kavanagh, 1992). Upon committing to an action, those individuals with high levels of self-efficacy are more inclined to persist longer and expend more energy compared with those depressed individuals with low self-efficacy (Bandura, 1977; Kavanagh, 1992). Furthermore, setbacks are less detrimental, and continued commitment to a goal is enhanced, for individuals with high self-efficacy than individuals with low self-efficacy. Therefore, individuals who suffer from depression and have low self-efficacy are more likely to develop pessimistic thoughts regarding their ability to be persistent and expend energy toward a behavior (Kavanagh, 1992). Kavanagh (1992) asserts that once engaging in an action, these individuals are less likely to persevere and put forth a great deal of effort than individuals with high self-efficacy who do not have depressed feelings.

#### *Self-efficacy and BPD*

There has been little research on self-efficacy in individuals with personality disorders, particularly BPD. One study conducted by Van Horn and Frank (1998) included a sample of 339 subjects from an inpatient adult chemical-dependency unit. Subjects completed the Structured Clinical Interview for *DSM-III-R* Personality Disorders (SCID-II). A total of 243 subjects were diagnosed with *DSM-III-R* Axis II personality disorders and 63 met criteria for BPD. The study assessed self-efficacy for abstinence from addictive behavior in situations that involved negative emotions/frustrations, or tested personal control. Results showed that individuals with BPD reported lower self-efficacy than subjects who were substance abusers without Axis II diagnoses.



There are several reasons to expect that individuals with BPD might commonly experience low self-efficacy in situations involving clinically relevant behaviors. First, many individuals with BPD experience frequent failure, as evidenced by their inability to attend school, work, or through failed personal relationships. Also, individuals who suffer from BPD frequently experience failure in treatment. Because BPD is a chronic disorder and treatment requires a long-term commitment, clients often drop out of therapy prematurely. Additionally, the high rate of individuals with BPD on disability may also be perceived as a form of failure (Miller, Abrams, Dulit, & Freyer, 1993). Revisiting Bandura's (1977) notion that personal accomplishments are a vital source of acquiring self-efficacy, it is easy to understand why individuals with BPD who experience personal failure in numerous aspects of their life including school, work, personal relationships, and psychotherapy might develop low self-efficacy.

Another reason to suspect that individuals with BPD might experience low self-efficacy is the invalidating environment in which many are raised according to Linehan (1993). The theory suggests that in such an environment, the expression of personal experiences is not validated, but rather is often punished and/or trivialized. Research that shows a significant correlation between history of family abuse and BPD (Sansone, Gaither, & Songer, 2002) exemplifies a most extreme form of invalidation. Linehan (1993) notes that invalidating responses communicate to the individual that his or her description and analysis of his or her own experience is wrong. Furthermore, the invalidating response conveys the notion that his or her responses are caused by socially undesirable characteristics or personality traits (e.g., paranoia, oversensitivity, or distorted view of events). Just as Bandura (1977) noted that an environment that makes

supportive suggestions can influence an individual's self-efficacy expectancy, so too can an environment that does not validate the individual's private experiences and emotional expressions be expected to act in a contradictory manner to discredit the individual's personal experiences and lower one's self-efficacy.

Another reason why individuals with BPD may have low self-efficacy is that they often are noncompliant in treatment. For example, they may not complete homework, such as skills practice, or they may not attend sessions. Just as failures in areas such as school, work, personal relationships, or psychotherapy lead to low self-efficacy for an individual, failure in personal experiences like skills practice is another event that may result in low self-efficacy.

A final factor supporting the notion that individuals with BPD may experience low self-efficacy is the high co-occurrence of depression and BPD. Empirical evidence supporting the co-occurrence of Axis II disorders, including BPD, and Axis I disorders, such as depression has been well documented (Cane & Gotlib, 1985; Davis & Yates, 1982; Perry, 1985; Russ, Clark, Cross, Kemperman, Kakuma, & Harrison, 1996; Zeiss, Lewinsohn, & Munoz, 1979). One consistent finding in the empirical literature is that individuals with BPD tend to experience high rates of depression. For example, Atlas and Wolfson (1996) conducted a study that compared 26 hospitalized female adolescents with 12 other females with other psychiatric diagnoses and found subjects with BPD experienced elevated levels of depression. Similarly, Russ et al. (1996) in a study of pain perception among BPD patients, found that women who were inpatients diagnosed with BPD showed significantly higher scores on the Beck Depression Inventory (BDI) than a group of age-matched controls. Other research also provides evidence that depressed

individuals display low levels of self-efficacy (Kavanagh, 1992; Van Horn & Frank, 1998). The correlation between low self-efficacy and depression along with the correlation between depression and BPD supports the notion that self-efficacy is a critical construct in the study and treatment of BPD.

#### *Relevance of Self-efficacy to BPD Treatment*

Individuals with BPD often are faced with making difficult behavior changes similar to clients in addiction treatment. For example, both types of individuals are faced with stopping self-harm behaviors, binge/purge behaviors, substance abuse, and problematic interpersonal behaviors. These behaviors may be long-standing and entrenched, and thus very difficult to stop. Also, individuals with BPD and individuals with addiction issues both commonly attempt to maintain employment or attend school. All of these attempts are examples of efforts to make health behavior changes effectively.

An individual's intention to change a problematic behavior, the amount of energy to exert to achieve the goal, and the persistence to continue toward achieving the goal regardless of challenges, are all related to his or her efficacy beliefs. An individual's ability to cope with stress and boredom affects the probability of behavioral change and his or her methods of addressing the difficulties of a situation. Bandura (1977) postulated that for a therapy to be effective, for either a specific goal or a more global change, it must alter the client's sense of personal efficacy. As noted earlier, he argued that the most effective means of accomplishing an increase in personal efficacy is through performance-based procedures that maintain a relatively specific focus. As a result of mastering a specific problem, the client's confidence is increased and he or she learns to handle difficult life situations. Therefore, the likelihood of an individual with BPD, or

anyone for that matter, attempting to make behavioral changes is likely to be largely dependent upon his or her level of perceived self-efficacy.

### *Dialectical Behavior Therapy*

An important component in the process of maintaining health behaviors is coping self-efficacy (Marlatt et al., 1999). This type of self-efficacy relates to an individual's ability to anticipate the use of coping mechanisms after he or she has made successful attempts to discontinue a given behavior, such as substance use, risky sexual behavior, and parasuicidal behavior (Marlatt et al., 1999). Individuals continuing to attempt to abstain from chosen behaviors are often presented with high-risk situations that tempt them to succumb to social pressure or to avoid experiencing negative affect (Schwarzer & Fuchs, 1996). In such situations, relapses are likely unless the individual is able to employ coping responses. An individual's confidence in his or her store of coping skills allows for healthy decision making and promotes use of those coping responses. Therefore, practicing and acquiring coping strategies, both behavioral and cognitive, enhances coping self-efficacy (Schwarzer & Fuchs, 1996). Several psychotherapy models teach coping strategies.

Clients use coping strategies to develop coping self-efficacy. Coping strategies also help clients increase adaptive behaviors. Dialectical Behavior Therapy (DBT) is a manual-based treatment that includes a skills training component and is a therapeutic model used to treat individuals with BPD (Linehan, 1993). The basic orientation of DBT is to apply a variety of cognitive and behavior therapy strategies to the problems faced by individuals with BPD, particularly suicidal behaviors. The therapy places an emphasis on dialectics, or the reconciliation of opposites, that occurs in a continual process throughout

therapy. The most prominent dialectic within therapy involves the need to accept clients as they are while also trying to teach them to change. In DBT therapists frame suicidal and other dysfunctional behaviors as learned problem-solving methods, and teach clients active problem solving methods, primarily through skills use. Skills training is balanced by the therapist's validating the client's emotional, cognitive, and behavioral responses, creating yet another dialectic.

DBT makes the assumption that the acquisition of new behavioral skills is an essential mechanism of change in therapy. Treatment is designed to increase emotion regulation capacity and ability to tolerate distress. Thus, an individual's sense of efficacy regarding his or her ability to utilize skills effectively may influence the use of skills. DBT includes five functions related to skills acquisition necessary for comprehensive treatment: 1) enhance capabilities, 2) improve motivational factors, 3) assure generalization to natural environment, 4) enhance therapist capabilities and motivation to treat effectively, and 5) structure the environment (Linehan, 1993).

The function of enhancing capabilities is to teach the individual adaptive skills to replace maladaptive behaviors and integrate those adaptive behavioral responses into his or her repertoire (Linehan, 1993). This is accomplished through several modes including skills training, psychoeducation, readings or handouts. Improving client motivation is an essential component in the therapeutic milieu and includes reducing factors such as depression and drug use that inhibit the individual from implementing skills.

Generalizing skills is accomplished through several means, including clients consulting with the therapist via phone calls in between sessions, providing clients with tapes of their session, and *in vivo* practice of behavioral assignments. Improving the therapist's

motivation through supervision, continuing education, treatment manuals, and staff incentives allows the therapist and other mental health professionals to implement the treatment more effectively.

There are several modes, or treatment components, to DBT, and all or only some may be applied depending on the particular setting. The first mode is individual outpatient psychotherapy, where each client has his or her own therapist and all other modes of therapy revolve around the individual therapy (Linehan, 1993). The individual therapist's responsibilities include coaching the client to thwart maladaptive behaviors and replace them with adaptive skills. The second mode in DBT is skills training, generally conducted in a group format outside of individual therapy sessions (Linehan, 1993). Skills taught in DBT include emotion regulation, interpersonal effectiveness, distress tolerance, core mindfulness, and self-management.

The third mode, telephone consultation, is necessary for several reasons, including to help clients generalize skills to everyday life (Linehan, 1993). Telephone consultation is also necessary because some individuals with borderline characteristics, including suicidal behavior, have difficulty asking for help. Telephone consultations provide clients with the opportunity to practice asking for help in an effective manner that is not demanding or abusive, and in a way that does not leave them experiencing feelings of shame or guilt. Finally, telephone consultations allow clients to restore the vital therapeutic relationship after a conflict or misunderstanding with the therapist. Telephone consultations allow client and therapist to repair their relationship without having to wait until the next session.

The fourth mode in DBT involves therapist consultation team meetings for therapists. Problems that arise in treatment are processed in these team meetings (Linehan, 1993). All therapists that are using DBT attend these meetings. These meetings provide the therapist with a valuable support system that can aid against therapist burn out and poor decision making in therapy. The last mode in DBT involves ancillary treatments including pharmacotherapy, day treatment, vocational counseling, or hospitalization (Linehan, 1993). DBT does not prohibit clients from seeking additional outside treatments.

*Current Study: Self-efficacy for Skills Use*

Self-efficacy has been identified as a major influence on an individual's perception of his or her capabilities to change behavior, increase motivation, alter thought patterns, and control emotional responses in difficult situations (Schwarzer & Fuchs, 1996). Individuals with a strong sense of personal self-efficacy are healthier, are more successful in achieving goals, and display better social assimilation. Studying ways to increase self-efficacy in individuals that suffer from BPD may be important for interventions like DBT that include the goals of alleviating the painful experiences associated with the disorder and teaching better coping skills. Educating and training individuals with BPD to use adaptive skills and avoid maladaptive behaviors when dealing with challenging situations can also bolster self-efficacy and result in increased self-confidence and better health. This study explored the relationship between self-efficacy and BPD to gain a clearer understanding of its role as a factor in the effective treatment of the disorder.

This study investigated if individuals trained in DBT skills used to cope in difficult situation demonstrate higher self-efficacy than those individuals not trained in DBT skills. According to Bandura (1977), instructing individuals to use coping skills to handle challenging situations is a form of verbal persuasion that serves to increase self-efficacy expectancy. Through skill instruction, it was hypothesized that individuals trained in DBT skills would have higher self-efficacy after training compared with before training. The current study used a measure of TSSE to determine if a skill training intervention increased skill self-efficacy.

Another aim of this study was to evaluate to what degree skill self-efficacy is related to subsequent skill use. That is, what type of relationship exists between DBT skills self-efficacy and actual skills use? The fact that perceived self-efficacy plays an influential role in the adoption of health behaviors (Schwarzer & Fuchs, 1999) provides evidence to support the hypothesis that those subjects who are exposed to and practice DBT skills and who increase their sense of perceived self-efficacy will consequently adopt the skills as a form of healthy coping behavior.

Results from numerous studies on the adoption of health practices such as dieting (Shannon, Bagby, Wang, & Trenkner, 1990), reducing sexual risky behavior (Kok, DeVires, Mudde, & Strecher, 1991), increasing physical exercise (Dzewaltowski, 1989), and smoking cessation (Godding & Glasgow, 1985) demonstrate the correlation between high self-efficacy and implementing and sustaining health behaviors. The author proposed that individuals trained in DBT skills that indicate high skills self-efficacy would implement skills on more occasions and do so more effectively compared with individuals trained in DBT skills that indicate low skills self-efficacy.



### *Hypotheses*

Hypothesis 1: Relative to the control group, subjects in the experimental condition exposed to DBT skills training intervention will display a greater increase in skill self-efficacy from pre-test to post-test.

Hypothesis 2: Post-test level of task specific self-efficacy will predict subsequent skills use as measured by homework completion.

### Method

#### *Participants*

For the current study, sample size was based on power analysis conducted for an earlier study that used similar interventions and subjects. Results from the analysis showed that a sample size of 30 subjects would be necessary to detect moderate effect sizes with a power of approximately .80 (i.e., 80% chance of correctly reporting significant results). The study used a sample size  $n = 34$ , made up of 21 women and 13 men who met *DSM-IV-TR* criteria for BPD. The mean ages for the total sample, the control group, and the experimental group were 41 years old ( $SD = 7.19$ ), 42 years old ( $SD = 9.33$ ), and 41 years old ( $SD = 5.05$ ), respectively. Fifty-nine percent of the sample was Caucasian, and 21% of the sample was African American. A majority of the subjects had at least some college education and most earned under \$10,000 a year. Additional demographic information is reported in Table 1.

Table 1

*Demographic Information for Subjects*

	Total Sample		Control Group		Experimental Group	
	<i>n</i> = 34		<i>n</i> = 16		<i>n</i> = 18	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
% Female	21	61.8%	9	56.3%	12	66.7%
Ethnicity						
White Caucasian	20	58.8%	9	56.3%	11	61.1%
Native American	1	2.9%	1	6.3%	0	0%
African American	7	20.6%	4	25.0%	3	16.7%
Other	4	11.8%	1	6.3%	3	16.7%
Education						
8 <sup>th</sup> grade or less	1	2.9%	1	6.3%	0	0%
Some high school	1	2.9%	0	0%	1	5.6%
GED	4	11.8%	2	12.5%	2	11.1%
High school degree	4	11.8%	1	6.3%	3	16.7%
Business degree	2	5.9%	2	12.5%	0	0%
Some college	18	52.9%	9	56.3%	00	50.0%
College degree	3	8.8%	1	6.3%	2	11.1%
Some grad school	1	2.9%	0	0.0%	1	5.6%
Income						
< \$5,000	17	50.0%	7	43.8%	10	55.6%
\$5,000- \$9,999	11	32.4%	7	43.8%	4	22.2%
\$10,000- \$14,999	2	5.9%	0	0%	2	11.1%
\$15,000- \$19,999	1	2.9%	1	6.3%	0	0%
> \$50,000	1	2.9%	0	0%	1	5.6%

Note. Due to missing data, for the total sample demographics, *n* = 32 for ethnicity and income. For the control group demographics, *n* = 15 for ethnicity, and income. For the experimental group, *n* = 17 for ethnicity, and income.

Subjects were recruited from mental health centers, hospitals and private practitioners in Seattle, WA and Missoula, MT areas. Subjects were aware of their BPD diagnosis and involved with a mental health professional such as a psychotherapist, case manager, or pharmacotherapist. Subjects were initially naïve to DBT skills. Informed consent was obtained from all subjects and as an incentive to participate in the study, subjects were paid \$40 for the first appointment, \$20 for each of the second, third and fourth appointments, \$30 for the fifth appointment, and \$40 for the last appointment. As an extra incentive, subjects were paid an additional \$5 each time they came for their appointment on time.

### *Measures*

Data for the current study were collected in conjunction with a larger project. Measures for that project are listed in Appendix A.

#### *Demographic Questionnaire*

A demographics questionnaire was used to gather information regarding gender, age, country of origin, ethnic background, religious affiliation, marital status, level of education, income, and occupation (see Appendix B).

#### *SCID-II BPD Items*

The BPD items from the Structured Clinical Interview for *DSM-IV* Personality Disorders (SCID-II, First, Gibbon, Spitzer, Williams, & Benjamin, 1997) were used to determine presence of the BPD among subjects (see Appendix C). The SCID-II is a semistructured interview that parallels the *DSM-IV-TR* personality disorders (Rogers, 2001). The measure uses a 3-point rating system: 1=absent or false, 2=subthreshold, 3=threshold or true. Each diagnostic criterion has about two questions on the SCID-II.

Rogers (2001) also notes that the SCID-II is a measure that has shown to produce scores that demonstrate acceptable reliability and validity as a measure of personality disorders.

*DBT Skills Self-Efficacy Scale*

DBT contains four skills training modules: interpersonal effectiveness, distress tolerance, emotion regulation, and core mindfulness. The DBT Skills Self-efficacy Scale (SSES) was developed to assess subjects' level of self-efficacy for DBT skills. Items on the DBT SSES were generated to assess an individual's level of efficacy regarding skill use for three of the four DBT skills modules: distress tolerance, emotion regulation, and core mindfulness (see Appendix D). Items on the DBT SSES did not reflect the skills for the interpersonal module because no skills training videotape existed for this module. The use of videotapes in the current study will be discussed in more detail in the procedure section.

The DBT SSES was constructed to contain four subscales. Two subscales correspond to the distress tolerance module: 1) crisis survival (e.g., distract/self-soothe, improve the moment, and pro's/con's), and 2) reality acceptance (e.g., radical acceptance, turn the mind, and willingness/willfulness). A third subscale corresponds to the emotion regulation module (e.g., prompting events, internal events, and describe/identify) and the fourth subscale corresponds to the core mindfulness module (e.g., what skills and how skills). Items reflect the major tenets of DBT and measure the extent to which the respondent feels confident in his or her ability to engage in DBT skills. The subscales use a self-report format and responses are recorded using a 5-point Likert scale with "1" indicating "not confident," "2" indicating "somewhat confident," "3" indicating

“moderately confident,” “4” indicating “confident,” and “5” indicating “very confident.”

Five items (#14-18) on the reality acceptance subscale require reverse scoring.

A question assessing the frequency with which the participant has engaged in self-destructive behaviors was also included with the scale. Subjects responded to the question using a 5-point Likert scale with 0 indicating “never,” 1 indicating “almost never,” 2 indicating “sometimes,” 3 indicating “frequently,” and 4 indicating “always.” (i.e., Would you describe yourself as an individual who sometimes engages in behaviors that are potentially harmful to yourself as a means to deal with difficult situations?)

A pilot study was conducted to investigate the psychometric properties of the SSES. A total of 217 college students ( $M$  age = 20.73; 79 males; 138 females) enrolled in undergraduate psychology courses at the University of Montana completed the DBT SSES. Results suggested that the DBT SSES is a measure capable of producing reliable scores. Current standards suggest a minimum score reliability cut-off value of .70 for the early stage of measure development and .80 for basic research purposes (Nunnally, 1978). Initial internal consistency estimates for the four subscales of the DBT SSES exceeded the recommended reliability cut-off value for scales used for research purposes. Cronbach’s *alpha* for the crisis survival subscale, reality acceptance subscale, Emotion Regulation subscale, Mindfulness subscale, and the Full Scale are .85, .90, .81, .84, .94, respectively.

### *Homework*

Homework sheets from the DBT Skills Training Manual (Linehan, 1993) were assigned each week after subjects viewed a videotape (see procedure section).

Homework assessment was conducted via an interview with the subject one week after it

was given and was based on frequency of skills practice and degree to which the participant felt the skills were helpful (see Appendix E). Interviewers assessed for frequency of homework completion by assigning subjects a score of “0” if they made no attempt to practice the skills during the previous week, assigning subjects a score of “1” if they attempted to practice the skills 1 to 2 times, assigning subjects a score of “2” for 3 to 4 attempts at skills practice, assigning subjects a “3” for 5 to 6 attempts at skills practice, and assigning subjects a “4” for 7 or more attempts at skills practice. The current study only assessed subjects’ reporting of the frequency of skills use to test Hypothesis 2.

#### *Procedure*

The current study assessed for subjects’ level of efficacy for the reality acceptance skills and crisis survival skills using the associated DBT Skills Self-efficacy subscales. The study was conducted at two sites: Seattle, WA and Missoula, MT. Subjects in the study came in for six separate appointments, the first five of which were approximately 1 week apart, and one follow-up session 1 month after the fifth appointment. At the screening session (session 1), subjects were verbally informed about the study and completed the informed consent form. They then completed the demographics questionnaire, and other measures (see Appendix A). Subjects who did not meet *DSM-IV* criteria for BPD at this point were screened out. Those continuing then completed the SCID-II BPD items and interview.

At session 2 subjects were assigned to either an experimental condition or control condition using a minimization random assignment procedure to control for years of education and verbal IQ (VIQ) estimate. During the second, third, and fourth

experimental sessions, all subjects completed the DBT SSES pre-test measures, watched a videotape, then completed the DBT SSES post-test measures and then were assigned homework. The DBT SSES subscales were used to assess for specific skills information based on that week's videotape, with items focusing on the skills being taught in that session's videotape. Subjects did not complete the DBT SSES at session 5 or 6.

Experimental group subjects viewed videotapes that demonstrated specific DBT distress tolerance skills: one on reality acceptance and two separate tapes on crisis survival. Each of the reality acceptance and crisis survival videotapes are approximately 50 minutes long. At sessions 2-4 subjects viewed one of three videotapes: reality acceptance (RA) skills, crisis survival skills (video 1), or crisis survival skills (video 2). Because the crisis survival module is lengthy, its material has been divided into two tapes: crisis survival 1 (CS 1), and crisis survival 2 (CS 2). Accordingly, for the current study the crisis survival self-efficacy subscale was divided into two sections, each corresponding to the material presented in the two videotapes. Administration of the videotapes was counterbalanced for the experimental group. Subjects in the control group viewed a series of psychoeducational videotapes of similar length and production quality, on unrelated topics including sleep, hormones, and brain functioning. Administration of the videotapes was also counterbalanced for the control group. Subjects in the control group were offered an opportunity to view the experimental videotapes following completion of the study. Lastly, homework was assigned at the end of sessions 2, 3, and 4, and was then collected at the beginning of the subsequent meeting.

## Results

### *Analysis of Variance and Chi-Square Test for Independence*

Hypothesis 1 was analyzed using three separate 2 (experimental x control) X 2 (pre-test x post-test) mixed factorial Analyses of Variance (ANOVAs) conducted on the means of subjects' responses to the CS 1, CS 2, and RA self-efficacy questionnaires. The ANOVAs allowed the investigator to evaluate the effects of the skills training videotape on the dependent variable, DBT skills self-efficacy, for the experimental group compared to the control group. Additionally, the investigator was interested in evaluating the effect of each skill training videotape from pre-test to post-test. Hypothesis 2 was tested by correlating skill self-efficacy at post-test with degree of homework completion in the treatment group using a Pearson product moment correlation.

For CS 1 self-efficacy scores at pre and post, there was a statistically significant main effect for time,  $F(1, 29) = 11.48, p = .002$ , a statistically significant main effect for condition,  $F(1, 29) = 4.29, p = .047$ , and no statistically significant interaction for time x condition,  $F(1, 29) = .113, p = .739$ . Results from a power analysis revealed an observed power of .06, indicating the it would be difficult to detect significant effects within this sample, given its size. Thus, the non-significant difference between scores for control subjects and experimental subjects for CS 1 should be interpreted with caution. Means and standard deviations for all three subscales are presented in Table 2.



Table 2

*Means and Standard Deviations for the Dialectical Behavior Therapy Skills Self-efficacy Scale*

	Pre-Test			Post-Test		
	<i>n</i>	Mean	Standard Deviation	<i>n</i>	Mean	Standard Deviation
Experimental Group						
CS 1	18	2.94	.55	18	3.30	.61
CS 2	18	2.62	.48	18	3.35	.46
RA	15	2.91	.48	15	3.39	.35
Control Group						
CS 1	13	2.55	.46	13	2.98	.60
CS 2	14	2.72	.79	14	3.00	.70
RA	14	2.97	.53	14	3.06	.48

Note. DBT SSES = Dialectical Behavior Therapy Skills Self-efficacy Scale, CS 1 = crisis survival 1, CS 2 = crisis survival 2, RA = reality acceptance

A follow-up *t*-test was performed on the pre- and post-test means for the experimental and control groups for CS 1. For the experimental group, the difference between the mean scores at pre-test ( $M = 2.9$ ,  $SD = .55$ ) and post-test ( $M = 3.3$ ,  $SD = .61$ ) was statistically significant [ $t(17) = -2.5$ ,  $p = .024$ ]. For the control group, the difference between mean scores at pre-test ( $M = 2.6$ ,  $SD = .13$ ) and post-test ( $M = 3.0$ ,  $SD = .17$ ) was statistically significant [ $t(12) = -2.3$ ,  $p = .04$ ]. These results show that both groups improved significantly from pre-test to post-test and that the experimental group had higher overall self-efficacy for the CS 1 skills. Figure 1 displays means for the control and experimental conditions on the DBT SSES from pre-test to post-test for CS 1.

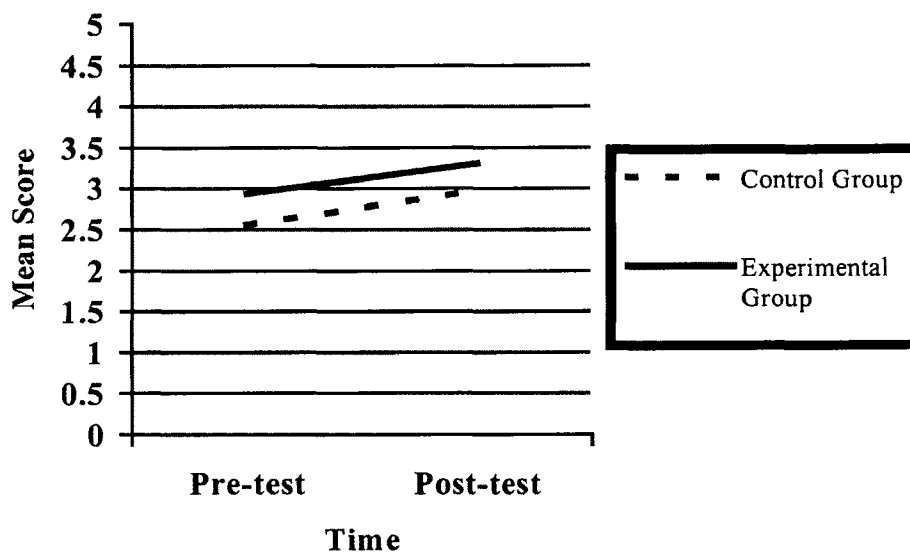


Figure 1  
Mean Scores on the CS 1 Subscale of the DBT SSES

In an effort to determine if demographic differences between control and experimental subjects might provide a rationale for why the experimental group did not improve significantly more than the control group from pre to post-test in their sense of self-efficacy for the CS 1 skills, two chi-square tests for independence were conducted to test for significant differences in level of education and ethnicity between the conditions. For the first chi-square analysis subjects were grouped into one of two categories. Category 1 consisted of subjects that achieved: an 8<sup>th</sup> grade level of education or less, some high school education, a General Equivalency Degree, a high school degree, or a business degree. Category 2 consisted of subjects that achieved: some college education, a college degree, or some graduate school education. Table 3 shows cross-tabulated frequencies and percentages for these groups.

Table 3

*Crosstabulations for Chi-Square Test of Independence for Education*

	Control Condition		Experimental Condition	
	Frequency	Percent	Frequency	Percent
Category 1	6	50.0%	6	50.0%
Category 2	10	45.5%	12	54.5%

No significant differences were found between the control group and the experimental group in terms of level of education [ $\chi^2(1) = .064, p = .80$ ]. These findings indicate the proportion of experimental subjects with a business degree level of education or less was not significantly different than the proportion of control subjects with a business degree level of education or less. Also, the proportion of experimental subjects with either some college education, a college degree, or some graduate school education was not significantly different than the proportion of control subjects with similar levels of education. In essence, the experimental and control groups did not differ with respect to level of education.

A second chi-square test for independence was conducted to determine whether significant differences in ethnicity existed between the control group and the experimental group. Subjects were grouped into one of two categories. Category 1 consisted of white Caucasian subjects. Category 2 consisted of subjects of all other ethnicities. Table 4 presents cross-tabulated frequencies and percentages for these groups.

Table 4

*Crosstabulations for Chi-Square Test of Independence for Ethnicity*

	Control Condition		Experimental Condition	
	Frequency	Percent	Frequency	Percent
Category 1	9	45.0%	11	55.0%
Category 2	6	50.0%	6	50.0%

No significant differences were found between the control group and the experimental group in terms of ethnicity [ $\chi^2(1) = .075, p = .78$ ]. These findings indicate the proportion of white Caucasian experimental subjects was not significantly different than the proportion of white Caucasian control subjects. Also, the proportion of experimental subjects of all other ethnicities was not significantly different than the proportion of control subjects of all other ethnicities. In essence, the experimental and control groups did not significantly differ on ethnicity.

A follow-up 2 (experimental x control) X 2 (pre-test x post-test) mixed factorial ANOVA was conducted using subjects in the control and experimental conditions that were white Caucasian. The ANOVA compared their mean scores for the CS 1 self-efficacy subscale from pre to post test. Results for CS 1 self-efficacy scores at pre and post indicate no significant interaction of time x condition,  $F(1, 17) = .178, p = .679$ . These results show that white Caucasians in the experimental group did not significantly improve more than white Caucasians in the control group in their sense of self-efficacy for the CS 1 skills. Due to the small sample size, researchers conducted a power analysis and obtained an observed power of .07. The low observed power indicates that it would be difficult to detect significant effects within this sample, given its size. Thus, the non-significant differences in white Caucasian's responses to the CS 1 self-efficacy

questionnaire between control and experimental groups should be interpreted with caution. Figure 2 displays means scores for White Caucasians in the control and experimental conditions on the DBT SSES from pre-test to post-test for CS 1.

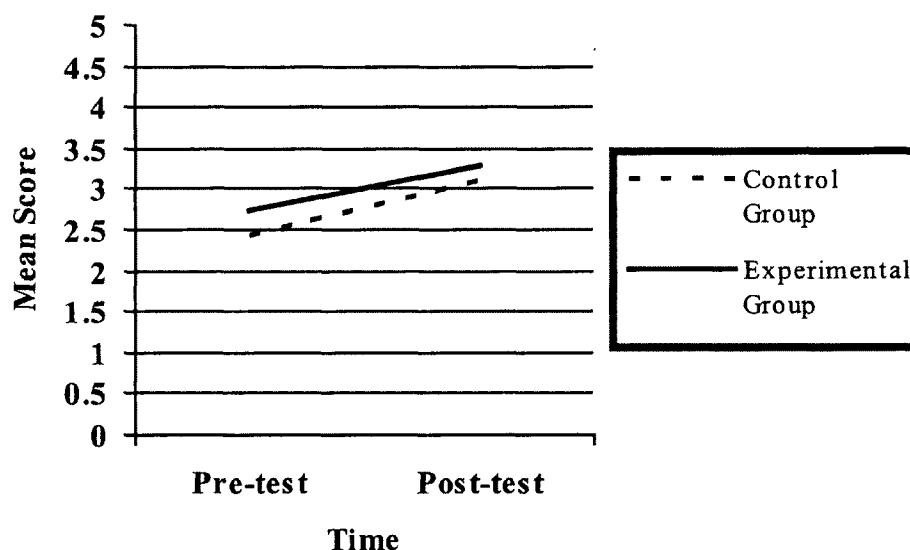


Figure 2  
Mean Scores for White Caucasians on the CS 1 Subscale of the DBT SSES

A second follow-up mixed factorial ANOVA was conducted using subjects in the control and experimental conditions that were non-white Caucasian. The ANOVA compared their mean scores for the CS 1 self-efficacy subscale from pre to post test. There was no statistically significant interaction of time x condition,  $F(1, 9) = .033$ ,  $p = .860$ . These results indicate that non-white Caucasians in the experimental group did not significantly improve more than non-white Caucasians in the control group in their sense of self-efficacy for the CS 1 skills. Results from the power analysis revealed a low observed power of .05, indicating that it would be difficult to detect significant effects within this sample, given its size. Thus, the non-significant differences in non-white

Caucasian's responses to the CS 1 self-efficacy questionnaire between control and experimental groups should be interpreted with caution. Figure 3 displays means scores for non-white Caucasians in the control and experimental conditions on the DBT SSES from pre-test to post-test for CS 1.

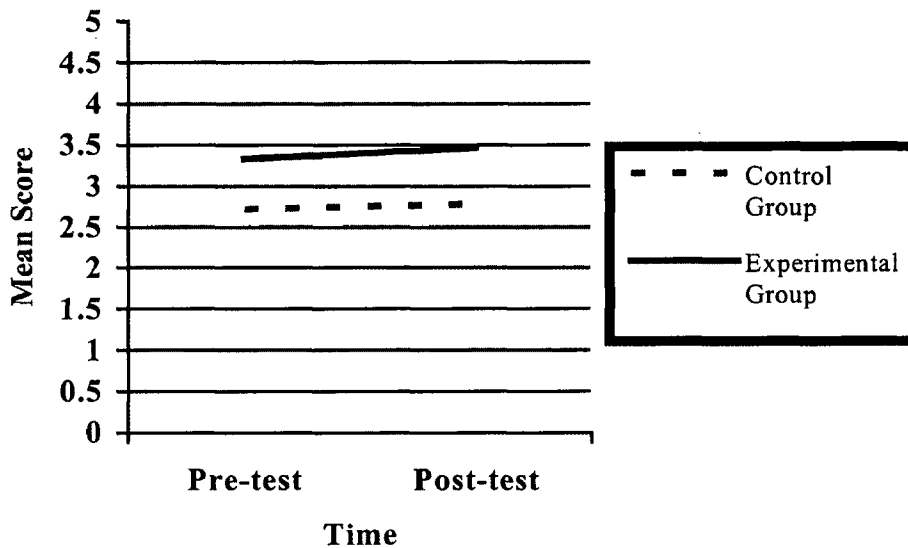


Figure 3

#### Mean Scores for Non-White Ethnicities on the CS 1 Subscale of the DBT SSES

A second mixed factorial ANOVA was conducted on subjects' mean scores for the CS2 self-efficacy subscale (see Table 4 for means and standard deviations). There was a statistically significant main effect of time,  $F(1, 30) = 51.0, p = .001$ , no main effect of condition,  $F(1, 30) = .374, p = .545$ , and a statistically significant interaction of time x condition,  $F(1, 30) = 10.49, p = .003$ . These results suggest that the experimental group improved significantly more than the control group in their sense of self-efficacy

for the CS 2 skills. Figure 4 displays means for the control and experimental conditions on the DBT SSES from pre-test to post-test for CS 2.

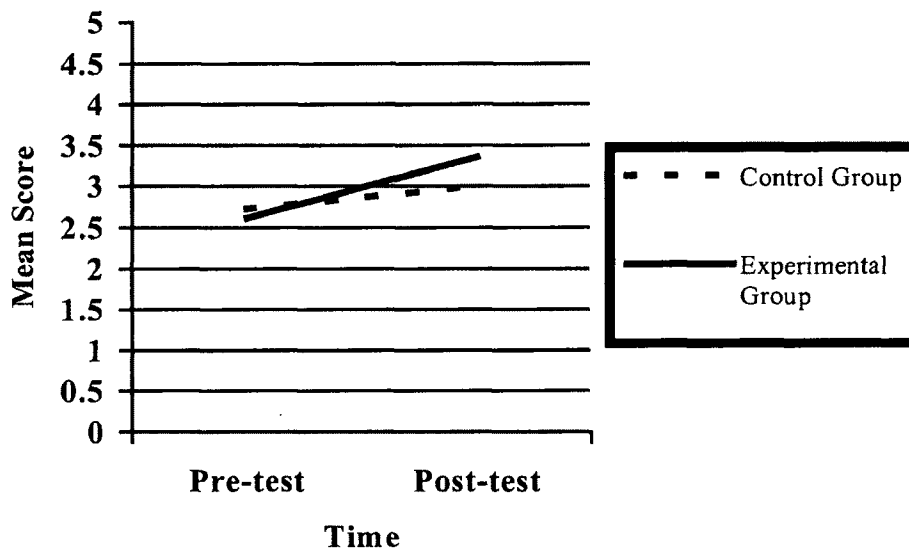


Figure 4  
Mean Scores on the CS 2 Subscale of the DBT SSES

The third mixed factorial ANOVA was conducted on the subjects' mean scores for the RA self-efficacy subscale (see Table 4 for means and standard deviations). There was a statistically significant main effect of time,  $F(1, 27) = 15.68, p = .001$ , no significant main effect of condition,  $F(1, 27) = .74, p = .398$ , and a significant interaction of time x condition,  $F(1, 27) = 7.52, p = .011$ . These results indicate that the experimental group improved significantly more than the control group in their sense of self-efficacy for the RA skills although both improved significantly with time. Figure 5 displays means for the control and experimental conditions on the DBT SSES from pre-test to post-test for RA.

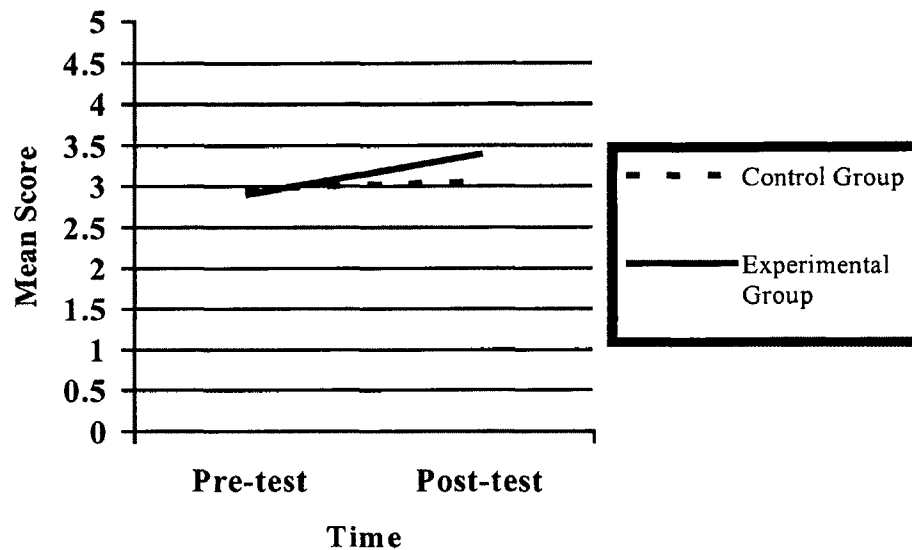


Figure 5  
Mean Scores on the RA Subscale of the DBT SSES

#### *Internal Consistency of the DBT SSES*

To further establish the score reliability of the DBT SSES, a reliability analysis was conducted on the responses from the 34 subjects who completed the measure at pre-test. Analysis of the clinical sample responses provided findings that support those from the pilot study, namely that the DBT SSES is a measure capable of producing reliable scores. Internal consistency estimates from the clinical sample for the full scale and the three subscales of the DBT SSES that were used in the current study exceeded the recommended reliability cut-off value for scales used for research purposes. A minimum score reliability cut-off value of .70 for the early stage of measure development (Nunnally, 1978). Cronbach's alpha for the crisis survival 1 subscale, crisis survival 2 subscale, reality acceptance subscale, and the Full Scale were .78, .75, .87, and .89, respectively.



### *Pearson Product Moment Correlation*

Skills self-efficacy scores at post-test for CS1, CS2, and RA were correlated with scores on the homework completion in the experimental group using the Pearson product moment correlation. Results revealed no significant correlations between homework completion and any subscales on the DBT SSES. Correlations are reported in Table 5.

Table 5

### *Pearson Product-Moment Correlations Between the Dialectical Behavior Therapy Skills Self-efficacy Scale Self-efficacy Subscales and Homework Completion*

	Scores for CS 1 at post-test	Scores for CS 2 at post-test	Scores for RA at post-test
Scores for CS 1 homework	-.055		
Scores for CS 2 homework		.006	
Scores for RA homework			.033

CS 1 = crisis survival 1, CS 2 = crisis survival 2, RA = reality acceptance  
Correlation indices computed using a Pearson product moment correlation.

## Discussion

### *General Discussion*

The current findings suggest that self-efficacy for DBT skills can be enhanced via skills training videotapes. Specifically, subjects in the experimental condition demonstrated a statistically significant increase in skills self-efficacy for the crisis survival 2 and the reality acceptance skills compared to the control group. The crisis survival 1 video may also have a positive impact on self-efficacy, although the results were complicated by the fact that the control group improved as well.

The study results are important for several reasons. First, it is worthwhile to view the results within the context of the target population. Individuals with BPD often

experience chronic distress associated with instability of interpersonal relationships, self-image, affect, and marked impulsivity (American Psychiatric Association, 2000).

Additionally, these individuals frequently struggle with patterns of behavioral, emotional, and cognitive instability and dysregulation that can manifest in self-harm behaviors and psychological distress such as depression and anxiety. Not surprisingly, individuals with BPD often live chaotic lives and it can be exceedingly difficult for them to change maladaptive behaviors. Considering the degree of distress that is common for the population, as well as the chronicity of the disorder, it is especially encouraging that a brief skills training intervention was shown to increase self-efficacy for utilizing behavioral skills. Although the intervention was relatively brief and low-cost, it was still successful in increasing self-efficacy in this difficult population.

The study's findings support Bandura's (1977) assertion that "verbal persuasion" can increase level of self-efficacy. Verbal persuasion, according to Bandura (1977), includes using suggestions that lead individuals to believe that they can cope successfully with behaviors that have caused them pain in the past. The videos offer suggestions for behavioral skills that seem to have increased viewers' beliefs they could be successful in engaging in more adaptive behaviors. In addition to the direct instruction, the videos include encouraging, hopeful statements. It is reasonable to expect that increasing self-efficacy in people with BPD, and that more than verbal persuasion may be needed; however, the study's results suggest that the videotapes did lead to such an increase, even without participants having direct behavioral experience with the skills. Whether this increase in self-efficacy is then maintained over time remains to be seen.

By itself, verbal persuasion is a weak method of generating self-efficacy because there is no component of direct experience that can lead to personal accomplishments. However, those persons who are persuaded to believe they can be successful at a certain task, and who are given the opportunity to effectively perform the task will demonstrate greater effort compared with individuals who are only provided with performance aids (Bandura, 1977). Those individuals who persist longer are likely to experience more personal accomplishments, an essential component in elevating self-efficacy. If a therapist is able to incorporate into treatment additional sources of information that lead to increases in self-efficacy (e.g., performance experiences, physiological feedback), then clients may be successful in developing personal accomplishments that increase self-efficacy expectations. Ultimately, a treatment that provides clients with exposure to all sources of information will best serve the client in his or her attempts to increase self-efficacy expectancies.

It remains unclear why subjects in the control group demonstrated an increase in skills self-efficacy for the crisis survival 1 skills. Despite the non-significant interaction for the crisis survival 1 videotape, the significant main effects of time and condition for the experimental condition provide some promise for the effectiveness of the crisis survival 1 videotape as a useful intervention in increasing skills self-efficacy. While the experimental group didn't demonstrate a significant increase in skills self-efficacy relative to control group from pre-test to post-test, both groups did increase over time.

No statistically significant correlations were found between skills self-efficacy and homework completion for crisis survival 1, crisis survival 2, or reality acceptance. These findings are perplexing given that the data show experimental subjects *did*

complete homework and they *did* increase their sense of self-efficacy, at least for two of the three skills self-efficacy subscales. It is possible that the method used to measure homework frequency was not sensitive enough. That is, the homework completion measure grouped frequencies of homework practice (e.g., 1-2 times in the past week, 3-4 times in the past week, 5-6 times in the past week, 7 or more times in the past week). Perhaps a measure that used more discrete variable response options for assessing frequency of homework practice (e.g., 1 time, 2 times, 3 times, 4 times, 5 times, 6 times, 7 times, 8 or more times) would have provided greater variability in responses, making it more likely to find a significant correlation.

Another possible explanation for the lack of a correlation between self-efficacy and skills practice is that there was not enough time to practice and there was insufficient reinforcement of skills practice. Perhaps one week did not offer the participants sufficient opportunity to adequately practice the skills and receive reinforcement for using the skills. Additionally, subjects might have attempted to practice the skills once during the week, but then did not continue to practice because they were not reinforced for their initial attempts to use the skills. A longer assessment time of skills practice might produce greater variability in reporting of homework practice and consequently produce a significant correlation with self-efficacy. In other words, it may be that engaging self-efficacy for certain skills requires more time than one week.

Subjects may have acquiesced when reporting homework because they were being paid. Subjects might have experienced some degree of social desirability effect that prompted them to report practicing skills with greater frequency than was actually the case. If subjects distorted their reporting of homework practice yet accurately

reported skills self-efficacy this might have narrowed the probability of finding significant correlations. Additionally, the lack of significant correlations could be due to inaccurate recall. Subjects were provided with a homework record form and encouraged to track homework practice during the week. However, subjects did not always track homework practice during the week and attempted to recall the number of times they practiced homework over the past week during the next session. It seems reasonable to assume that the delay in recall might have resulted in inaccurate reporting of homework practice and caused increased error variance. For example, if a subject with high self-efficacy did not track homework during the week and then in session inaccurately reported practicing the skills less than was actually the case, this may have obscured the positive correlation that was hypothesized to exist between self-efficacy and homework practice.

Error variance might have occurred by subjects not having a clear understanding of what constituted homework. Consequently, subjects may have practiced the skills but not reported that they had because of uncertainty that what they were doing was in fact skills practice. Also, subjects might have experienced some degree of social desirability and reported to the assessor that they practiced homework more frequently than was actually the case and that might have been expected given their level of self-efficacy. Therefore, because of the possible affect of social desirability in reporting frequency of homework practice and the possibility that subjects might have been unclear about whether or not their behaviors qualified as homework, more error variance might have been created.

An individual's level of self-efficacy is influenced by numerous factors. While factors such as personal accomplishments and verbal persuasion serve to increase self-efficacy, other factors might have diminished subjects' self-efficacy for skills use or homework practice. Perhaps subjects experienced a moderating effect where a factor "qualitatively or quantitatively affected the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (Baron & Kenny, 1986, p. 1174). Factors such as motivation or depression could have interacted with subjects' skills self-efficacy in a crisis situation and weakened their belief that they could affectively implement the skills. Several subjects in the current study suffered from depression and although they might have had high self-efficacy, their depressive symptoms could have moderated their ability to use the DBT skills.

The contradiction between the current study findings and existing literature that shows a connection between self-efficacy and skills adoption raises an interesting point. It is possible that self-efficacy might not be relevant to using DBT skills, or it may be that self-efficacy is only one of many variables that determine whether or not one adopts coping skills. If this latter possibility were true, then it would require several different factors being present for one to practice the skills. Emotion dysregulation is common in individuals with BPD, and not being able to modulate one's emotions may diminish one's self-efficacy or decrease the chances of practicing homework. Another factor that is common in this population, stress associated with low socio-economic status, might have interfered with homework practice or influenced a subject's self-efficacy. Individuals with BPD oftentimes have several Axis I diagnoses and this complex interplay of disorders makes it even more difficult to determine what role self-efficacy may play in

skills use for this population. Much of the existing self-efficacy research involves sample subjects that most likely are functioning more adaptively compared with individuals with BPD. The multidiositic characteristic of the BPD population makes it difficult to generalize existing findings on self-efficacy for exercise, dieting, and smoking cessation to DBT coping skills for crisis situations for this clinical population. The question remains open as to how self-efficacy influences individuals with BPD to adopt health behaviors, coping skills, or homework practice.

Overall, the results of the current study support the therapeutic utility of DBT skills training in general, and the videotapes more specifically, as an efficacious means of increasing self-efficacy in individuals with BPD. Very little research to date has looked specifically at outcomes related to DBT skills training independent of other components of the treatment. The results of this study, although limited by the analogue nature of the study, do support the notion that DBT skills training has a positive impact in and of itself. In addition, the results suggest that individuals with BPD who view the tapes can gain positive benefits in terms of their confidence. Videotape adjuncts to treatment provide a low-cost, convenient way to increase client access to skills training material. The video format of the skills training means that it is fairly accessible, and this provides flexibility in terms of when and where individuals choose to learn or review coping skills. Also, the video format provides individuals with an accessible means of reviewing coping skills during a crisis situation when a therapist or other support figures may not be available. Additionally, the skills training videotapes are convenient because they are only approximately 50 minutes in length and yet this brief intervention has been shown to successfully increase an individual's level of skills self-efficacy.

Of course these results must be understood within the context of the lack of relationship between self-efficacy and homework completion. It may be that even if one is able to elevate clients' self-efficacy, this may not translate into practicing the skills. Attention to factors that interfere with skills use, such as a client's level of depression, may be an important consideration in clinical settings. These videotapes, intended to be treatment adjuncts, likely need to be used as a component of a treatment that also addresses barriers to skills use. Indeed, DBT is a treatment that incorporates both skills training group and individual therapy; the latter setting being a milieu that seeks to address a client's obstacles to skills use, such as depression.

#### *Strengths and Limitations*

The current study included a number of strengths. One of the most notable strengths is that it utilized a randomized, controlled design. Additionally, the study included the careful screening of the subjects to ensure that all had met the criteria for BPD. Because all subjects completed the Structured Clinical Interview for *DSM-IV* Personality Disorders (SCID-II, First et al., 1997) the researcher is confident that the sample was relatively homogeneous. Careful screening of subjects for the BPD diagnosis strengthens the internal validity of the current study and allows the findings to be applied to other individuals diagnosed with BPD. While the current study did not include subjects with only BPD diagnoses, it is rare to find such cases, as comorbid substance use, depression, and other Axis I diagnoses are common with this population.

Another strength of the current study is that it involved a sample size of 34 subjects. This size sample is remarkable given the fact that many individuals with BPD experience distress and dysregulation in their lives that make it difficult for them to keep



appointments. In the current study, only 9% of the subjects did not complete the crisis survival 1 subscale, 5 % did not complete the crisis survival 2 subscale, and 15% of the subjects did not complete the reality acceptance subscale. Only 3 out of 37, (8%), subjects did not return after the first diagnostic assessment session to continue participation in the study. The low attrition rate of subjects, defined as those who did not return after session 1, is remarkable given the chaotic lifestyles often associated with this population. Additionally, the low rate of subjects who dropped out of the study prematurely, (i.e., subjects did not complete all the measures at sessions 2, 3, and 4), is particularly noteworthy when considering that subjects had to attend three separate sessions over a three-week period.

The consistency of the treatment administration constituted another strength of the current study. The videotapes ensured that all subjects received the same treatment. The consistency of the intervention and control conditions eliminated potential confounds to the study's internal validity such as differences in the teaching of DBT skills. Counterbalancing the videos eliminated possible order effects that might have mitigated the internal validity of the study findings.

The current study used only one mode of DBT, namely skills training, to test for its effect on subjects' level of self-efficacy and homework completion. The analogue nature of the study excluded other modes of DBT, such as telephone consultation, individual therapy, and group skills training that might have affected the study's outcome. Inclusion of these other DBT modes might have resulted in greater increases in subjects' self-efficacy, and also greater commitment to homework. However, the investigator recognizes that rather than trying to assess several modes of DBT in a single

study, the internal validity of the current study is strengthened through a component analysis design that focused on the effects of DBT skills training.

Typically DBT skills training is conducted in a group setting; however, subjects in this study viewed the skills training videos alone. Without the group dynamic in skills training sessions there is no support from other group members that can foster the use of the skills outside of the learning environment. This form of encouragement was lacking in the present study and may be an important variable for clinicians to consider when suggesting skills training to their clients. Of course, it is possible for clients to use the skills videos in a group setting and thereby receive the support and encouragement from other group members to use the skills. Another unique aspect of the group DBT skills training is that clients make a commitment to the group members to attend the sessions. Practice of this public commitment may help clients make other commitments in his or her life, like promising the individual therapist to learn, practice and use DBT skills

A methodological limitation to the current study involves the process of measuring homework. The homework measure grouped frequencies of a subject's homework practice rather than using discrete variables to assess for a specific number of times a subject practiced homework. Response options that group the number of times homework was practiced decrease the amount of variability. For example, response options on the measure for reporting frequency of homework practice were grouped (e.g., 1-2 times in the past week, 3-4 times in the past week, etc.). A measure that used discrete values (e.g., 1 time in the past week, 2 times in the past week, etc.) for reporting homework practice, rather than grouping response values, might have created more

variability in an individual's responses and increased the probability of finding a significant correlation between self-efficacy and homework.

Another methodological issue is that the small sample size used in the current study may have limited the ability of the study to find significant results. Given the base rates of the disorder and the Internal Review Board requirements of recruiting only individuals who are aware of their diagnosis, it can be a challenge to recruit large samples from this population. Also, recruitment of subjects for the current study was based on a power analysis that revealed that 30 subjects would be required to detect a medium effect size. Nonetheless, using a larger sample size may have increased the ability to detect a significant correlation between self-efficacy and homework completion.

#### *Future Directions*

Future research may want to consider developing a measure of self-efficacy for *not* engaging in problematic behaviors. For example, a useful self-efficacy scale might measure a client's belief that he or she could refrain from self-mutilating behaviors (e.g., cutting or burning oneself), inappropriately expressing anger (e.g., getting into fights), binge eating, or abusing substances. Assessing for a client's belief that he or she could refrain from engaging in a particular harmful behavior may help clinicians design specific treatment plans that are more effective in helping their clients avoid harmful behaviors. Additionally, there is a need for future research to develop self-efficacy measures for the mindfulness, interpersonal, and emotion regulation modules of DBT. Self-efficacy measures for these other modules would provide clinicians with valuable information about their clients and about areas to focus on with clients. Lastly, there is a need for future research to explore what other factors besides self-efficacy and depression that

might affect an individual's success with DBT. Possible factors to study include anxiety, environmental influences, and memory.

Stage 1 of DBT is concerned with reducing suicide crisis behaviors; therefore, self-efficacy would appear to play an important role in realizing this goal. It would be interesting for future research to investigate how increased self-efficacy for coping skills relates to actually implementing the skills in a crisis situation. Subjects trained with DBT skills videos did feel more confident after viewing the videos in their ability to exercise particular skills but whether or not they perform the skills in a crisis situation is a question that has not been adequately addressed in the current study. It may be that without the urgency of a crisis situation individuals don't feel the need to practice learned skills. It may be that high self-efficacy for skills use is contextually-based within a crisis situation.

Another area of focus for future research includes understanding the role self-efficacy plays in the context of comprehensive DBT treatment, not just the skills training component. Given the influence that self-efficacy has been shown to have in the behavior change process, it seems important to evaluate what influence it might have in other treatment modes within DBT. If the current study found viewing skills training videos increased self-efficacy, what behaviors can a therapist use in individual therapy to raise a client's level of self-efficacy? How can self-efficacy be applied to telephone consultation and aiding a client in effectively asking for help from a therapist? These questions and others could be the focus for future research that tries to apply the current findings to the other modes of DBT treatment.

Subjects were provided with homework assignments that encouraged them to practice successfully using the learned skills, and thereby increase their sense of personal accomplishment. However, the post-test measurements assessed for subjects' level of self-efficacy before they were allowed to practice the skills and gain personal accomplishments. Therefore, the significant increase in self-efficacy for the experimental group from pre-test to post-test appears to be acquired as a result of being exposed only to verbal persuasion. Future research using the DBT SSES and the DBT skills training videotapes could include assessing for changes in self-efficacy over time by including a post-test measurement after subjects have had sufficient time to practice the skills and potentially develop performance accomplishments. This strongest source of acquiring self-efficacy requires that individuals have adequate time to practice the newly learned skills. A one month and 6 month follow-up measure of specific skills self-efficacy would allow more time for subjects to acquire personal accomplishments that might result in significant findings for crisis survival 1, crisis survival 2, and reality acceptance subscales.

DBT coping skills offer individuals adaptive alternatives to dysfunctional behaviors such as self-harm, substance abuse, and binge eating and provide individuals with the necessary skills to handle difficult situations. Clinicians may want to assess for a client's level of self-efficacy because it provides them with valuable information in terms of effectively working with a client. Information about a client's level of self-efficacy could be used to construct a treatment plan that focuses on development or maintenance of self-efficacy for specific skills. This tailored approach to treatment planning might allow clinicians to better meet the needs of a client. Clinicians may want

to use the skills training videos to increase a client's self-efficacy for those skills that he or she does not feel confident using. Also, assessing for a client's skill self-efficacy provides the therapist with important information about what level of confidence the client has in using the skills and perhaps how likely he or she is to use the skills.

Although the results from the current study did not show that high self-efficacy predicted practicing skills, a wide body of literature supports the idea that self-efficacy is an essential component in adopting healthy behaviors, like coping skills. (Bandura, 1977; O'Leary, 1985; Lazarus & Folkman, 1987; Marlatt et al., 1999; Schwarzer & Fuchs, 1999).

Therapists most likely informally assess for a client's level of DBT skills self-efficacy when teaching skills or assigning clients homework by asking the client how confident he or she feels about using the skills. A measure such as the DBT SSES might be a helpful tool for therapists because it could provide them with more detailed information about the client's self-efficacy. Clinicians may also want to assess for a client's level of self-efficacy to determine how likely he or she is to commit to changing harmful behaviors. Research shows that individuals with high self-efficacy are more likely to commit to behavior change than individuals with low self-efficacy (Bandura, 1977; Kavanagh, 1992). Also, those persons that make a commitment to do something are more likely to follow through on the commitment than those who do not commit to a certain behavior (Linehan, 1993). Therefore, future research studies may use the skills training videos as a means to increase a client's self-efficacy, and maybe increasing the likelihood that the client will commit to using the skills as a means of behavior change. One level of commitment within DBT individual treatment includes a clinician eliciting a

promise from a client to eliminate behaviors that interfere with skills practice or that are harmful to him or her. A second level of commitment involves clinicians eliciting a promise from their clients to learn, practice, and implement the skills that they are being taught. Behavioral analysis can also be used to identify specific obstacles in the client's life that are preventing him or her from learning, practicing, or using the skills. This third level of commitment strategy involves the client implementing the specific behavioral solutions generated by the therapist and client to overcome the obstacles.

This exploratory investigation produced promising results that two of the three DBT skills training videos can be an effective medium for acquiring skills self-efficacy. Replication of the current study, controlling for the confounding variables discussed, will be important to further promote the utility of the skills training videotapes in other settings. Future replication will also help establish the DBT SSES as a valid instrument for measuring DBT skills self-efficacy that is capable of producing reliable scores.

### *Summary*

In the current study, subjects' self-efficacy for DBT skills appeared to be influenced through verbal persuasion provided via DBT skills training videotapes. Crisis survival 2 and reality acceptance skills training videotapes were effective in significantly increasing experimental subjects' level of skills self-efficacy from pre-test to post-test relative to the control condition. The study showed that the crisis survival 1 skills training videotape was not effective in producing statistically significant increases in the experimental subjects' level of skills self-efficacy from pre-test to post-test relative to the control condition. The current study also produced discouraging results by showing that self-efficacy is not correlated with treatment outcome, at least as a measure of homework

compliance. Nevertheless, it seems that using measures of self-efficacy as outcome measures may be useful. Several possible explanations have been offered to try to account for the nonsignificant findings. Also, methodological shortcomings to the current study have been identified and discussed in the hope that future replications of the current study will control for such variables and result in a more robust research design. Suggestions for future research have been provided in the hope that additional studies of this area will allow researchers to better understand the complex role that self-efficacy plays as a factor in an individual's success with DBT.



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## Appendix A

## Measures Administered for the STTR-Phase II Project

Initial Phone Screen and Call Back Form

Face Sheet

Debriefing Checklist and Protocol

Beck Depression Inventory, Second Edition (BDI-II)

Brief Symptom Inventory, First Edition (BSI-I)

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)

The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)

Demographic Data Survey

American National Adult Reading Test (ANART)

Wechsler Memory Scale, Third Edition (WMS-III)

Affective Control Scale (ACS)

Situational Competency Test (SCT)

Memory Scale for Crisis Survival Scenarios

Memory Scale for Reality Acceptance Scenarios

Subjective Units of Distress Scale

Distress Tolerance General Knowledge Test

Crisis Survival 1 General Knowledge Test

Crisis Survival 2 General Knowledge Test

Reality Acceptance General Knowledge Test

Crisis Survival 1 Skills Self-efficacy Scale

Crisis Survival 2 Skills Self-efficacy Scale

Reality Acceptance Skills Self-efficacy Scale

Schwarzer General Self-efficacy Scale

Participant Satisfaction Survey

Distressing-Events Measure

Life Events Scale

## Appendix B

## Demographic Questionnaire

**UNIVERSITY OF MONTANA and**  
**BEHAVIORAL TECHNOLOGY TRANSFER GROUP**  
**DEMOGRAPHIC DATA SURVEY (DDS)**

1. \_\_\_\_\_ Were you born in the United States? 0=No 1=Yes

If you were not born in the United States:

1a. \_\_\_\_\_ In what country were you born? \_\_\_\_\_

1b. \_\_\_\_\_ At what age did you move here? \_\_\_\_\_

2. \_\_\_\_\_ What is your ethnic background?

1=White/Caucasian

2=Native American/American Indian or Eskimo

3=Black/African American

4=Chinese or Chinese American

5=Japanese or Japanese American

6=Korean or Korean American

7=Other Asian or other Asian American

8=Mexican, Mexican American or Chicano

9=Puerto Rican

10=Other Hispanic/Latino

11=East Indian

12=Middle Eastern/Arab

13=Other (Please specify \_\_\_\_\_)

3. \_\_\_\_\_ In what religion were you raised?

1. Protestantism (Please specify denomination \_\_\_\_\_)

2. Catholicism

3. Judaism

4. Islam

5. Hindu

6. Buddhism

7. Agnosticism or Atheism

8. Other (Please specify denomination \_\_\_\_\_)

9. None

4. \_\_\_\_\_ What religion do you now practice?  
 1. Protestantism (Please specify denomination \_\_\_\_\_)  
 2. Catholicism  
 3. Judaism  
 4. Islam  
 5. Hindu  
 6. Buddhism  
 7. Agnosticism or Atheism  
 8. Other (Please specify denomination \_\_\_\_\_)  
 9. None
5. \_\_\_\_\_ Did you ever live in a foster family? 0=no 1=yes

If you lived in a foster family

- 5a. \_\_\_\_\_ At what age did you first live in one?
- 5b. \_\_\_\_\_ How many different foster families did you have?
- 5c. \_\_\_\_\_ How many years altogether did you live with foster families?
6. \_\_\_\_\_ Were you adopted? 0=no 1=yes
- 6a. \_\_\_\_\_ If you were adopted: At what age were you adopted?
7. \_\_\_\_\_ What is your current marital status  
 1. Single, never married  
 2. Widowed  
 3. Married  
 4. Separated  
 5. Divorced

If you have been divorced one or more times, please list the length of each marriage.

- 7a. \_\_\_\_\_ Length of first marriage  
 7b. \_\_\_\_\_ Length of second marriage  
 7c. \_\_\_\_\_ Length of third marriage  
 7d. \_\_\_\_\_ Length of fourth marriage

If you have been widowed one or more times, please list your spouses age at death and cause of death.

- 7d. \_\_\_\_\_ First spouse's age at death  
 7e. \_\_\_\_\_ First spouse's cause of death \_\_\_\_\_
- 7f. \_\_\_\_\_ Second spouse's age at death  
 7g. \_\_\_\_\_ Second spouse's cause of death \_\_\_\_\_

8. For each of the following people, please enter the code number that corresponds to the highest grade of formal education completed? (If unknown, please write an X.)

1=eight grade or less  
 2=some high school  
 3=GED  
 4=high school graduate  
 5=business or technical training beyond high school  
 6=some college  
 7=college graduate  
 8=some graduate or professional school beyond college  
 9=masters degree  
 10=doctoral degree

- 8a. \_\_\_\_\_ Yourself  
 8b. \_\_\_\_\_ Spouse/Partner  
 8c. \_\_\_\_\_ Mother  
 8d. \_\_\_\_\_ Father

9. For each of the following people, please estimate the gross annual income (before taxes) for the last year and enter the corresponding code number. (If unknown, please write an X.)

1=less than \$5,000  
 2=\$5,000-9,999  
 3=\$10,000-14,999  
 4=\$15,000-19,999  
 5=\$20,000-24,999  
 6=\$25,000-29,999  
 7=\$30,000-49,999  
 8=\$50,000 or more

- 9a. \_\_\_\_\_ Yourself  
 9b. \_\_\_\_\_ Spouse/Partner  
 9c. \_\_\_\_\_ Mother  
 9d. \_\_\_\_\_ Father

10. For each of the following people, please describe his/her occupation for most of last year and also enter the code number from the list which most closely resembles his/her occupation. If the person was unemployed, retired or deceased, use the number that corresponds to the occupation before, unemployment, retirement or death. (If unknown, please write an X.)

- 1=Professional, technical, e.g., clergy, engineer, teacher, lawyer, physician, nurse  
 2=Owner, manager, administrator or executive of business (non-farm); also other business position, e.g., accountant, programmer, researcher  
 3=Sales, e.g., insurance, real estate, auto  
 4=Clerical, e.g., secretary, retail clerk, typist  
 5=Skilled worker, craftsperson, foreman (Non-farm)  
 6=Transport or equipment operator  
 7=Unskilled worker, laborer (non-farm)  
 8=Farm workers, e.g., farmer, farm laborer, farm manager or farm foreman  
 9=Service worker, e.g., custodian, waitress, guard, barber  
 10=Private household worker  
 11=Full-time homemaker  
 12=Full-time student  
 13=Other

	Occupation description	Code
10a. Yourself	_____	_____
10b. Spouse/partner	_____	_____
10c. Mother	_____	_____
10d. Father	_____	_____

11. \_\_\_\_\_ How many of your immediate family (e.g., children, brothers, parents, spouse) live in your geographic area (within a 50-mile radius)?

## Appendix C

## Borderline Personality Disorder Items From The Structured Clinical Interview for DSM-

## IV Personality Disorders (SCID-II)

## SCID-II

## BORDERLINE PERSONALITY DISORDER

BORDERLINE  
PERSONALITY DISORDERBORDERLINE  
PERSONALITY  
DISORDER

A pattern of instability of Interpersonal relationships, self-Image, and affects and marked impulsivity, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

90. You've said that you have [*Have you*] often become frantic when you thought that someone you really cared about was going to leave you. (1) frantic efforts to avoid real or imagined abandonment (**Note:** Do not include suicidal or self-mutilating behavior covered in item (5).) ? 1 2 3

What have you done?

3 = several examples

(Have you threatened or pleaded with him/her?)

91. You've said that [*Do*] your relationships with other people you really care about have lots of extreme ups and downs. (2) a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation ? 1 2 3

Tell me about them

3 = either one prolonged relationship or several briefer relationships in which the alternating pattern occurs at least twice

(Were there times when you thought they were everything you wanted and other times when you thought they were terrible? How many relationships were like this?)

? = inadequate information    1 = absent or false    2 = subthreshold    3 = threshold or true

92. You've said that you have [*Have you*] all of a sudden changed your sense of who you are and where you are headed. (3) *identity disturbance: markedly and persistently unstable self-image or sense of self* ? 1 2 3

Give me some examples of this.

[Note: Do not include normal adolescent uncertainty.]

93. You've said that your sense of who you are often changes [*Does your sense of who you are often change*] dramatically. 3 = acknowledges trait

Tell me more about that.

94. You've said that you are [*Are you*] different with different people or in different situations so that you sometimes don't know who you really are.

Give me some examples of this.  
(Do you feel this way a lot?)

95. You've said that there have been [*Have there been*] lots of sudden changes in your goals, career plans, religious beliefs, and so on.

Tell me more about that.

96. You've said that you've [*Have you*] often done things impulsively

(4) *impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). (Note: Do not include suicidal or self-mutilating behavior covered in item (5).)* ? 1 2 3

What kinds of things?

(How about...

...buying things you really couldn't afford?

...having sex with people you hardly know, or "unsafe sex"?

...drinking too much or taking drugs?

...driving recklessly?

...uncontrollable eating/)

? = inadequate information    1 = absent or false    2 = subthreshold    3 = threshold or true

## IF YES TO ANY OF ABOVE:

Tell me about that. How often  
Does it happen? What kinds  
of problems has is caused?

97. You've said that you [*Have you*] tried to hurt or kill yourself or threatened to do so.

(5) recurrent suicidal behavior, gestures, or threats, or self-mutilating Behavior

? 1 2 3

98. You've said that you [*Have you ever*] cut, burned, or scratched yourself on purpose.

3 = two or more events (when no in a Major Depressive Episode)

Tell me more about that.

99. You've said that [*Do*] you have a lot of sudden mood changes.

(6) affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days)

? 1 2 3

(How long do your "bad" moods Last? How often do these mood Changes happen? How suddenly do your moods change?)

3 = acknowledges trait

100. You've said that [*Do*] you often feel empty inside.

(7) chronic feelings of emptiness

? 1 2 3

Tell me more about this.

101. You've said that [*Do*] you often have temper outbursts or get so angry that you lose control.

(8) inappropriate intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)

? 1 2 3

Tell me about this.

3 = acknowledges trait and at least one example

102. You've said that [*Do*] you hit people or throw things when you get angry.

Tell me about this.

(Does this happen often?)

? = inadequate information    1 = absent or false    2 = subthreshold    3 = threshold or true



103. You've said that [Do] even little things get you very angry.

When does this happen?

(Does this happen often?)

104. You've said that when you are under a lot of stress, you [*When you are under a lot of stress, do you*] get suspicious of other people or feel especially spaced out.

Tell me about that.

(9) transient, stress-related paranoid ideation or severe dissociative symptoms

? 1 2 3

3 = several examples that do not occur exclusively during a Psychotic Disorder or Mood Disorder With Psychotic Features

**AT LEAST FIVE ITEMS ARE CODED "3"**

1 3  
↓  
**BORDERLINE PERSONALITY DISORDER**

? = inadequate information    1 = absent or false    2 = subthreshold    3 = threshold or true

## Appendix D

## DBT Skills Self-efficacy Subscales for the

## Crisis Survival 1 Module

Many people respond to extreme distress by doing something destructive in order to feel better, such as using drugs, harming themselves, binge eating, etc. Rate (using the scale below) to what extent you feel confident in your ability to use the following skills in very distressing situations to avoid doing something destructive.

Crisis Survival 1 Skills

I feel confident in my ability to...

1. distract myself by becoming completely involved in an activity.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
2. distract myself by doing something to help someone else.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
3. distract myself by comparing the distressing event with a worse possibility.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
4. distract myself from one emotion by creating another emotion.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
5. distract myself by temporarily pushing the problem away.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
6. distract myself by focusing on other thoughts.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
7. distract myself with an intense sensation (e.g., a hot bath)	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident

## I feel confident in my ability to...

8. soothe myself by looking at beautiful things.	<p>1.....2.....3.....4.....5</p> <p>Not Moderately Very Confident Confident Confident</p>
9. soothe myself by listening to something soothing such as music, someone's voice, or a radio/television.	<p>1.....2.....3.....4.....5</p> <p>Not Moderately Very Confident Confident Confident</p>
10. soothe myself by smelling something pleasant, such as flowers, perfume, etc.	<p>1.....2.....3.....4.....5</p> <p>Not Moderately Very Confident Confident Confident</p>
11. soothe myself through eating something I find comforting.	<p>1.....2.....3.....4.....5</p> <p>Not Moderately Very Confident Confident Confident</p>
12. soothe myself through comforting touch, such as an animal, getting a hug or a massage, etc.	<p>1.....2.....3.....4.....5</p> <p>Not Moderately Very Confident Confident Confident</p>

## DBT Skills Self-efficacy Subscales for the

## Crisis Survival 2 Module

Many people respond to extreme distress by doing something destructive in order to feel better, such as using drugs, harming themselves, binge eating, etc. Rate (using the scale below) to what extent you feel confident in your ability to use the following skills in very distressing situations to avoid doing something destructive.

Crisis Survival 2 Skills

I feel confident in my ability to...

13. cope by imagining a more pleasant situation.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
14. cope by finding the value or meaning in getting through the difficult situation	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
15. cope by using prayer or my spirituality to open up and accept.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
16. cope by relaxing my body and muscles.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
17. cope by focusing on one thing in the moment and not ruminating on the past or the future.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
18. cope by taking a healthy break or "mini-vacation."	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident
19. cope by encouraging myself.	1.....2.....3.....4.....5 Not Confident	Moderately Confident	Very Confident

I feel confident in my ability to...

20. think of the advantages and disadvantages of coping effectively vs. doing something destructive.	1.....2.....3.....4.....5 Not Moderately Very Confident Confident Confident
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DBT Skills Self-efficacy Subscales for the  
Reality Acceptance Module

Many people respond to extreme distress by doing something destructive in order to feel better, such as using drugs, harming themselves, binge eating, etc. Rate (using the scale below) to what extent you feel confident in your ability to use the following skills in very distressing situations to avoid doing something destructive.

I feel confident in my ability to...

1. acknowledge painful circumstances and feelings in a way that leads to growth.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
2. completely face a problem and tolerate that things are the way they are in this moment.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
3. accept the fact that every event is caused by something.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
4. accept the fact that I can build a life worth living even under difficult circumstances.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
5. realize I must accept a problem before I can hope to change it.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
6. move myself toward a more accepting attitude of problems.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident

## I feel confident in my ability to...

7. shift my focus to acknowledging reality as it is when I begin to think that things can't really be happening as they are, and that I can't tolerate things (i.e., "this can't be" or "I can't stand it.")	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
8. continue to refocus on accepting uncontrollable aspects of life when I find myself rejecting them.	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
9. realize that anger and bitterness prevent acceptance of problems.	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
10. make a commitment to myself to become more accepting of problems.	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
11. figure out what I need to do to get through a situation when painful or difficult things happen.	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
12. do what needs to be done in a difficult situation rather than fighting reality in a way that is not helpful.	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>
13. be a part of life and reality by being an active participant	<p>1.....2.....3.....4.....5</p> <p>Not Confident                      Moderately Confident                      Very Confident</p>

When something doesn't go as I expect or desire, how likely am I to...

(Rate statements on a scale of 1 to 5, with 5 being most likely and 1 being least likely).

14. remain passive and not do anything to improve the situation.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
15. become angry and behave in a way that prevents me from finding a solution.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
16. tell myself that there is nothing I can do to improve things.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
17. tell myself that this is just the way things are going to be and give up.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
18. engage in behaviors that are harmful to me.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
19. try to take action that will be helpful in improving the situation.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident
20. make decisions that make it easier to come to a solution.	1.....2.....3.....4.....5 Not Confident                      Moderately Confident                      Very Confident



When something doesn't go as I expect or desire, how likely am I to...

**(Rate statements on a scale of 1 to 5, with 5 being most likely and 1 being least likely).**

21. tell myself that I have the ability to make decisions that will be effective in solving a problem.	<p>1.....2.....3.....4.....5</p> <p>Not                      Moderately                      Very Confident                      Confident                      Confident</p>
22. adopt an attitude that allows me the ability to get through a tough situation.	<p>1.....2.....3.....4.....5</p> <p>Not                      Moderately                      Very Confident                      Confident                      Confident</p>
23. resist behaviors that are counterproductive to achieving my goals.	<p>1.....2.....3.....4.....5</p> <p>Not                      Moderately                      Very Confident                      Confident                      Confident</p>
24. resist behaviors that are harmful to me.	<p>1.....2.....3.....4.....5</p> <p>Not                      Moderately                      Very Confident                      Confident                      Confident</p>



3) think about how your situation is better than other people's, or think about how you're doing better now than in the past?

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1 2 3 4 5 6 7  
 not at all helpful extremely helpful

4) do something to generate a different feeling or mood state, such as reading emotional books, watching movies, listening to music, etc.

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1 2 3 4 5 6 7  
 not at all helpful extremely helpful

5) attempt to stop thinking about difficulties by actively blocking out thoughts about the problem

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1 2 3 4 5 6 7  
 not at all helpful extremely helpful



### Homework: Crisis Survival #1

Name \_\_\_\_\_ Week \_\_\_\_\_  
 Starting \_\_\_\_\_

1) For each survival skill, check whether you used it during the week and write down your level of distress tolerance both before (pre) and after (post) using the strategy as follows:

0 = "no tolerance, a nightmare" to 100 = "Easy tolerance, piece of cake."

Skill	Mon Pre/Post	Tues Pre/Post	Wed Pre/Post	Thurs Pre/Post	Fri Pre/Post	Sat Pre/Post	Sun Pre/post
-------	-----------------	------------------	-----------------	-------------------	-----------------	-----------------	-----------------

#### **DISTRACTING:**

Activities	/	/	/	/	/	/	/
Contributions	/	/	/	/	/	/	/
Comparisons	/	/	/	/	/	/	/
Emotions	/	/	/	/	/	/	/
Pushing away	/	/	/	/	/	/	/
Thoughts	/	/	/	/	/	/	/
Sensations	/	/	/	/	/	/	/

#### **SELF-SOOTHING: the five senses**

Vision	/	/	/	/	/	/	/
Hearing	/	/	/	/	/	/	/
Smell	/	/	/	/	/	/	/
Taste	/	/	/	/	/	/	/
Touch	/	/	/	/	/	/	/

## Homework Assessment for Crisis Survival 2

## HOMEWORK ASSESSMENT (CS#2)

In the past week, when you were upset, in a difficult situation or in an emotional crisis, how many times did you do each of the following in a way that was constructive and helpful to you. We're interested in knowing how often you did each of the following in a manner that helped you avoid doing something destructive or harmful.

1) attempt to get your mind off the problem by imagining you are somewhere else, creating a scene in your mind, using images that take you away. a scene in your mind, that you are somewhere else etc.

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1 2 3 4 5 6 7  
 not at all helpful extremely helpful

2) find some reason or meaning to explain why you are experiencing the situation or emotional crisis.

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1 2 3 4 5 6 7  
 not at all helpful extremely helpful









## Homework Assessment for Reality Acceptance

### HOMEWORK ASSESSMENT (RA)

In the past week, when you were upset and faced with a situation that you could not change, how many times did you do each of the following in a way that was constructive and helpful to you. We're interested in knowing how often you did each of the following in a manner that helped you avoid doing something destructive or harmful.

1) telling yourself, or having to remind yourself again and again, that there is no way to change the situation even if you don't agree with it or don't like it

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1            2            3            4            5            6            7

not at all helpful extremely helpful

2) choosing to be effective and do what you know is needed or required in a situation even if you don't want to, don't think that it is fair or you don't believe it is right.

0 \_\_\_\_\_  
 1-2 \_\_\_\_\_  
 3-4 \_\_\_\_\_  
 5-6 \_\_\_\_\_  
 7 or more \_\_\_\_\_

If used the above, how helpful was it in getting through the painful situation without making things worse?

1            2            3            4            5            6            7

not at all helpful extremely helpful



