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Integrating Forgiveness Therapy and the Treatment of Anger: A Randomized Controlled Trial

Abstract

Although the costs of uncontrolled anger are well-known, interventions for anger are less frequently studied and less effective than interventions for either depression or anxiety (NAMA, 2012). One hundred eighty-seven patients requesting anger management treatment at an outpatient counseling center in Denver participated in this study. They were randomly assigned to one of two treatments: an experimental treatment integrating forgiveness therapy and anger management, or anger treatment as usual. Treatment consisted of twelve 90-minute sessions held once a week in small groups led by group facilitators. Participants in both treatment conditions reported clinically significant decreases in state anger and increases in anger control and forgiveness, with the experimental treatment outperforming treatment as usual on all outcome variables. These findings suggest that adding a forgiveness component to anger treatment may increase the efficacy of treatment for anger. Furthermore, results of this study suggest that forgiveness therapy may be efficacious not just with victims, but with offenders as well.

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by

Michael S. Ballard

August 2017

Advisor: Cynthia McRae, Ph.D.

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ABSTRACT

Although the costs of uncontrolled anger are well-known, interventions for anger are less frequently studied and less effective than interventions for either depression or anxiety (NAMA, 2012). One hundred eighty-seven patients requesting anger management treatment at an outpatient counseling center in Denver participated in this study. They were randomly assigned to one of two treatments: an experimental treatment integrating forgiveness therapy and anger management, or anger treatment as usual. Treatment consisted of twelve 90-minute sessions held once a week in small groups led by group facilitators. Participants in both treatment conditions reported clinically significant decreases in state anger and increases in anger control and forgiveness, with the experimental treatment outperforming treatment as usual on all outcome variables. These findings suggest that adding a forgiveness component to anger treatment may increase the efficacy of treatment for anger. Furthermore, results of this study suggest that forgiveness therapy may be efficacious not just with victims, but with offenders as well.

Keywords: forgiveness; anger; group counseling

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CHAPTER ONE: INTRODUCTION

When writing about anger in 1899, pioneer psychologist G. Stanley Hall, the first president of the American Psychological Association, lamented, “psychological literature contains no comprehensive memoir on this very important and interesting subject. Most textbooks treat it either briefly or not at all...” (Hall, 1907). More than 100 years later, it seems that little has changed.

Anger has been relatively understudied, receiving much less attention than other areas such as depression and anxiety. Professor Michael Saini went as far as to state, “There is no clear evidence to guide mental health professionals in assessing and treating angry clients” (Saini, 2009). Possibly because of this, interventions to improve problematic anger are significantly less successful than those for the more studied areas, such as anxiety and depression (DiGuiseppe & Tafrate, 2003).

Research has repeatedly demonstrated that uncontrolled anger leads to a wide variety of negative consequences in physical, emotional, occupational, and relational functioning (Berenbaum, Raghavan, Le Vernon, & Gomez, 2003; Greenberg, 2002; Gross & Leveson, 1997; Mennin & Farach, 2007; Mennin, Holloway, Fresco, Moore & Heimberg, 2007; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). The costs of anger are staggering, and impact nearly every area of functioning. Struggles with uncontrolled anger have also become extremely common in modern-day society, with stories of rage

and violence present daily in newscasts and newspapers. In short, although the costs of anger are high and the impact of anger is widespread, there remains a need for validated interventions to help individuals learn to control anger.

What is Anger?

Before discussing the best methods or approaches in controlling anger, one must first clearly define the term and determine what anger is and what it is not. Anger has many components and thus can be easily misunderstood. Anger may be expressed in violent rage, physical fighting, or the destruction of property. It can also be seen in quiet rumination and seething bitterness. It can be displayed in verbal tirades, haughty selfrighteousness and contempt, sullen resentment and scorn, or silent disdain and indignation. Anger shows itself in loud outbursts and in quiet passive aggressive affronts. Because of the various faces of anger, the concept is a difficult one to clearly define and measure. There is no clear consensus regarding the best ways to define, assess, and treat the various dimensions of anger, as it is often confused with the constructs of violence, hostility, and aggression (Saini, 2009).

This process is made even more difficult because, unlike most clinical problems, “anger” is not included as a diagnosis in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-V), but instead is listed as a symptom of other mental health disorders. Problematic anger is often included in disorders such as Intermittent Explosive Disorder, Borderline Personality Disorder, Antisocial Personality Disorder, Paranoid Personality Disorder, and Conduct Disorder (Kassinove & Tafrate, 2002).

In an interview, psychologist Jerry Deffenbacher commented, “The DSM doesn’t have any diagnostic categories where anger is the presenting issue. We don’t have any parallel diagnoses, which makes the problem of determining the degree to which anger becomes a problem a fuzzy call” (Holloway, 2003). Eckardt and Deffenbacher (1995) proposed three anger disorders be added to the DSM: (a) Adjustment Disorder with Angry Mood, (b) Situational Anger Disorder, and (c) General Anger Disorder. However, these proposals have not been accepted to date. Therefore, “clinical anger” cannot be used as a mental health diagnosis, and “anger” is not clearly defined within the DSM.

So what exactly is *anger*? Is it an emotion or a feeling? A cognition or way of thinking? Does anger stem from a genetic blueprint or a chemical imbalance in the brain? Is anger volitional, determined by the choices one makes? Does it come from a moral or spiritual weakness? Is anger entirely negative and anti-social, or are there times when an angry response could be viewed as virtuous and even praiseworthy? History has given a wide variety of responses to these questions, and they must be addressed if a more effective treatment for anger is to be created.

Many scientists view anger as a secondary emotion, caused by other emotional issues such as hurt or sadness. Because of this, anger is often seen as a symptom rather than a cause. It is frequently viewed as a symptom of another disorder instead of a disorder in and of itself. However, the origin of this symptom, what causes the anger, has been hotly debated for centuries.

Aristotle (350 BC) defined anger as: A desire, co-mingled with pain, to see someone punished, and which is provoked by an apparent slight to the angered person, or to something or someone that belongs to him, when that slight is not justified.

Although ancient, this definition provides a valuable description of many facets of the complicated emotion that is anger. In fact, many of the components of Aristotle's definition are still present today in modern anger treatments. For example, Aristotle's definition includes the concept of injustice as a primary trigger that stimulates anger, a common notion in modern-day anger research. Additionally, Aristotle speaks of an evaluation of the situation that requires a specific kind of thinking or evaluation of the event, which clearly is congruent with modern cognitive-behavioral treatments. Finally, Aristotle mentions a tendency to respond with aggression when someone is hurt, a key understanding central to many modern treatments.

In short, Aristotle argued that anger comes from a desire for revenge, which is born out of a perceived insult. An event takes place that an individual perceives as an insult or slight. This insult then creates in the person the desire to punish the offender as a form of revenge. Seneca (44 AD) showed his agreement with this response when he defined anger succinctly as, "the desire to exact punishment." Modern psychologist J.R. Averill (1982) further supported this point by stating that, "the aim of anger is to exact revenge and punish the perpetrator."

Over the last three thousand years, scientists, philosophers, and clergy have attempted to define anger in more well-defined and scientific terms. Anger has been described as,

a negative phenomenological experience that exists on a continuum in which the frequency, intensity, and duration of the experience, along with expressive (i.e., subjective, physiological, interpretive, and behavioral) characteristics, often leads to significant impairment (Kassinove & Sukhodolsky, 1995).

Novaco (1975) defined anger as, “an emotional response to provocation that is cognitive, somatic-affective, and behavioral,” including three of the main characteristics of anger. Spielberger (1998) referred to anger as: “an emotional state that varies in intensity from mild irritation to intense fury and rage.”

Borrowing from the above definitions, for the purpose of this study, anger will be defined as: *An emotional state that is cognitive, somatic, and behavioral that varies in intensity and comes about when an individual perceives that he or she has been wronged.*

The Cost of Anger

Now that anger has been clearly defined, a discussion of the costs of anger can be explored. Simply put, the costs of anger are nothing short of staggering. Difficulties with regulating the expression of anger are associated with greater distress that may be associated with emotional disorders and other illnesses (Berenbaum, Raghavan, Le Vernon, & Gomez, 2003; Greenberg, 2002; Gross & Leveson, 1997; Mennin & Farach, 2007; Mennin, Holloway, Fresco, Moore & Heimberg, 2007; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Those who cannot cope with and resolve their anger are at greater risk of heart disease, earlier mortality, depression, anxiety, and troubled relationships (Chida & Steptoe, 2009; Miller, Smith, Turner, Guijarro, & Hallet, 1996; Williams, 2010).

Researchers have found clear links between anger and increased heart rates, headaches, backaches, neck pain, stomach pain, sleeping troubles, high blood pressure,

hypertension, and coronary heart disease (Doster et al, 2009; Lohr & Hamberger, 1990; Miller et al., 1996; Schwenkmezger & Hank, 1996; Thoresen et al. 1999; Wenneberg et al., 1997; Williams et al., 2000). Anger can greatly increase the risk of heart attack and stroke, and can lead to an increased risk of ulcers, certain cancers, and autoimmune disorders.

Studies have noted that of all emotional reactions, anger yields the largest increases in heart rate and blood pressure (Schwartz, Weinberger & Singer, 1981). This physiological response may explain the correlation between the expression of anger and a greater risk of developing hypertension. Those with chronic anger problems are more likely to have elevated lipid, cortisol, and norepinephrine levels (Rosenman, 1985). Additionally, studies suggest that hostility appears to be predictive of heart attacks and other aspects of coronary artery disease (Smith, 1992). Scientists have even discovered that individuals with anger problems have shorter life spans from all causes (Shekelle, et al., 1983).

Hicks and Diamond (2011) determined that angry quarrelling impacts affect, sleep disturbances, and cortisol levels in cohabitating couples. This study took 39 cohabitating individuals (75% married) who had been in a relationship for a minimum of two years and asked each individual to complete a diary at the end of every day describing their daily conflict, rating the degree of intensity of this conflict. In the morning each participant completed ratings of negative affect, a measure describing sleep

disruptions, and collected saliva samples to measure awakening cortisol levels. Results indicated that greater quarreling was associated with greater sleep disturbances and negative affect.

Patterns of aggressive behavior can also lead to a host of relational problems. Anger and hostility often create major barriers to successful relationships. Couples with frequent conflicts report lower relationship satisfaction and show greater rates of dissolution (Gottman & Notarius, 2000, 2002). Many couples lack the skills of managing their anger and hostility, and because of this deficit these couples experience higher levels of conflict, higher negative affect, and lower levels of satisfaction and commitment to the relationship.

Additionally, anger and hostility can lead to domestically violent and dangerous situations for couples. In a meta-analysis of risk factors for spouse mistreatment, poor anger management skills were associated with increased physical aggression (Stith, et al., 2004). Couples who do not possess strong anger management skills are at higher risk for domestic violence and divorce.

Common behavioral expressions of anger include road rage, domestic violence, child abuse, and property damage. Violent and aggressive behavior creates a sense of distrust among family members and friends. (Morland, et al., 2012). Relationships are likely to suffer. Public and private outbursts, particularly those that cause injury or property damage may result in arrest or other legal trouble (American Psychiatric Association, 2013).

Tilley and Brackley (2005) performed a grounded theory study with 16 men who were receiving treatment for intimate partner violence after being convicted of assault on an intimate female partner. The study sought to discover common patterns and determine risk factors for the development of violence in an attempt to form a greater understanding as to why men batter their partners. Although many factors were revealed in this study, two of the strongest risk factors were found to be ineffective anger management skills and poor conflict resolution skills both by the male participants and their female partners. These variables were found to be key determinants influencing domestically violent situations. These findings suggest that men with low anger management skills who are in relationships where both they and their partners have low conflict resolution skills are at a much higher risk to be in a domestically violent situation.

Glazer-Baron, et al. (2007) examined the effects of hostility on marital functioning, and found a significant relationship between hostility, anger, and ratings of couple satisfaction. This study took 122 married couples and monitored their ratings in hostility, concurrent ratings of the relationship, and changes in marital adjustment over 18 months. Researchers found that ratings of hostility had a significant relationship with marital adjustment, ratings of support, and conflict within and across spouses.

The researchers also noted that trait anger and hostile cognition were associated with concurrent and prospective marital adjustment. Additionally, this study was able to determine that increased conflict raised levels of psychosocial vulnerability in the form of greater levels of social conflict and decreased social support. These higher levels of

psychosocial vulnerability further increases health risks and consequences such as disease. These results support the role of hostility and anger in increasing psychosocial vulnerability.

In addition to physical and interpersonal costs, scientists have determined that anger has significant emotional costs as well (Tafrate, Kassinove, & Dundin, 2002). Researchers have found that those with high levels of anger have damaged friendships, increased fights with family members, and difficulties in school or in the workplace (McKay & Rogers, 2000). Jones, Freeman and Gatwick (1981) found that increased levels of anger are associated with increased levels of loneliness and isolation. Smith, et al. (1988) notes that numerous psychosocial effects are related to anger, including significant emotional and interpersonal problems at home and at work. Researchers have also reported a relationship between anger and alcohol consumption (Liebsohn, et al. 1994).

Anger can also lead to economic costs in motor vehicle accidents and business. One study noted that anger in the workplace cost American businesses \$4.2 billion during the previous year and resulted in 1.8 million days of lost productivity (Kinney & Johnson, 1993). Moore and Dahlen (2008) reported that aggressive driving is a factor that contributes to motor vehicle accidents, which are a leading cause of death in the United States and cost roughly \$230.6 billion a year.

In contrast, effective emotion regulation is associated with good health outcomes, and improved relationships and academic work performance (Brackett & Salovey, 2004;

John & Gross, 2004). Clearly, the cost of anger is significant on a physical, interpersonal, emotional, and financial level.

Prevalence of Anger

To make matters worse, anger and hostility are extremely prevalent in society, and appear to be increasing. The American Psychological Association ranks its webpage “Controlling Anger Before it Controls You” as its #1 most popular and most viewed page on its website, ahead of resources for depression, anxiety, ADHD, addiction, and marriage. More visitors to their website seek information on how to control their anger than any of the other resources that APA produces, which covers an extremely wide spectrum of mental health issues.

Problematic anger is commonly cited as a primary reason why clients seek mental health treatment. Lachmund and DiGiuseppe (1997) report that working with angry clients is as common as working with those who are anxious or depressed. Clinician reports suggest that anger-related problems are extremely common in practice settings compared to other presenting issues (Lachmund, DiGiuseppe, & Fuller, 2005). Anger-related problems are among the most common reasons why children and adolescents are referred in school, clinical, medical, and forensic settings (Brunner & Spielberger, 2009). Anger is also a central concern in such childhood disorders as Oppositional Defiant Disorder and Attention-Deficit/Hyperactivity Disorder (Sukhodolsky, Solomon, & Perine, 2000).

Recent decades have brought about a proliferation of anger management groups in locations as diverse as the workplace, schools, and prisons. The practice of anger

management, and in particular anger management groups, is increasing and spreading at a rapid rate throughout society (Kemp & Strongman, 1995). The demand for these services is rising steadily, despite the fact that most of the services provided lack empirical validation of their efficacy.

Moreover, most people report that they have little understanding of what to do when they are angry. Researchers noted that those surveyed stated that they had fewer successful strategies for controlling anger than for controlling fear, sadness, worry, or any other emotional state (Tice & Baumeister, 1993).

An Understudied Subject

Despite the high cost of anger and the high prevalence of anger problems in society, there is relatively little research that has been published concerning anger and anger treatment. Psychologist Howard Kassinove stated, “Anger has been an understudied emotion” (Holloway, 2003). He went on to say that the number of patients he saw clinically for problematic anger didn’t correspond with the relative lack of attention anger received in the academic literature. Kassinove wrote, “I was in clinical practice for more than 25 years. An enormous number of people come in with anger problems, but the literature base is small, there are no anger diagnostic categories and psychology textbooks rarely mention anger” (Holloway, 2003).

Despite its prevalence, anger is also rarely mentioned in the instruction of therapists and psychologists. For instance, there were no classes offered in the treatment of anger at either this author’s Master’s or Doctoral program. Possibly because of this lack of training, therapists and psychologists often seem unclear as to the best practices in

treating anger. DiGiuseppe and Tafrate (2001) noted that mental health professionals are generally less comfortable working with angry clients than with those who are experiencing anxiety or depression.

Psychologist Jerry Deffenbacher, who specializes in anger research, reported that he started studying anger because the clinicians he was working with did not know how to treat it. He commented:

I was supervising doctoral students in our clinic training program, and they asked me to help them with helping their angry patients and what I could do. And I basically said damned if I knew, and we began to look in the literature and there was relatively little to help us with that, say, compared to the treatment of anxiety or depression. And so that just kind of piqued my curiosity, and I laid down the anxiety research and stress research that I was doing at the time and we started looking at anger and anger reduction. (NAMA, 2012).

Possibly because of this lack of attention, interventions for anger are generally less successful than those of anxiety and depression (NAMA, 2012). Clearly, depression and anxiety have been studied and researched in far more detail, and interventions for these areas are much more advanced. There is less guidance in the literature about working with clients with anger than for treating depression or anxiety. Saini (2009) commented that compared to other emotional disorders, little attention has been given to anger. Kassonove and Sukhodsky (1995) noted that for every published article on anger there are 10 articles on depression and 7 on anxiety. The study of anger lags behind, and because of this, relatively little is known about the best practices of treating anger.

The Link Between Anger and Forgiveness

When individuals experience anger, they often believe that they have been treated unfairly, and blame others for these perceived transgressions (Weiss, Suckow, & Cropanzano, 1999). This perceived unfairness leads to the experience of hostility and

resentment (Clayton, 1992). A logical outgrowth of this perception is the desire for revenge, which is present in many individuals with anger problems. Many clients report a strong desire to “get back” at their perpetrators, whom they view as having treated them unfairly (McCullough, Kurzban & Tabak, 2010).

As Aristotle first argued, the emotion of anger creates a desire to punish the offender (350). The promotion of forgiveness, therefore, would seem to be a logical therapeutic intervention to decrease this desire for revenge and the emotions of resentment associated with it. This could, in turn, cause a reduction in anger and an increase in anger control. Extant research has shown that increased levels of forgiveness are associated with a reduction in hostility and resentment. Increased levels of forgiveness brought about by an intervention also decreased motivation to take revenge against an offender and led to a reduction in negative emotions against the (McCullough, Worthington, & Rachal, 1997; McCullough et al., 1998).

If, as stated above, anger, “comes about when an individual perceives that he or she has been wronged,” then an intervention promoting forgiveness could hold great potential in reducing problematic anger. Yet, despite the logical relationship between anger and forgiveness, the construct of forgiveness is largely absent from anger management literature and research. A review of anger management treatment manuals demonstrated that the topic of forgiveness is almost entirely absent in most treatments and given only a passing reference in others (Bohensky, 2001; Harbin, 2000; McKay & Rogers, 2000; Potter-Efron, 2010; Rosenberg, 2005). This area of study has for the most part been left unexplored.

Forgiveness Therapy

Research has repeatedly demonstrated that Forgiveness Therapy helps victims learn to forgive their offenders (Berry et al, 2005; Chan & Arvey, 2011; Clayton, 1992; Enright & Fitzgibbons, 2010). In recent years, studies have indicated widespread effectiveness in helping clients deal with deep wounds, showing efficacy in decreasing negative symptoms such as anxiety, bitterness, and resentment and increasing positive symptoms such as peace and meaning. Case studies such as couples dealing with infidelity (Mamalakis, 2001), victims of incest (Freedman & Enright, 1995), World War II veterans (Spriggs, Allmond & Smith, 2013), and citizens of war-torn Uganda (Finnegan, 2010) have illustrated the power of this approach for victims.

However, the literature has yet to explore the idea that Forgiveness Therapy could be used not just with victims, but with offenders as well. It is this author's experience that for many patients with clinical anger, past hurts play a significant role in their present emotional functioning. People with clinical anger, who are often labeled as "offenders," have deep wounds and pain from past hurts, hold grudges and resentments, and take this hurt out on others in the form of violent anger. By working through these wounds and learning to forgive, these individuals can move forward and learn to deal with their problems from a calmer, more rational perspective, instead of emotionally reacting when triggered.

By learning to forgive those who have hurt them, as well as forgiving themselves for the mistakes they have made, these patients can significantly improve their lives. Helping these individuals learn to forgive themselves and others who have hurt them can

facilitate deeper work on the root causes of their anger, which improves not just their ability to control anger, but their social, emotional, and occupational functioning as well. When offenders learn to forgive, they improve not just their anger, but their lives as well. While extant literature adequately addresses using forgiveness therapy as an intervention for victims, there remains a gap in the literature in regard to using Forgiveness Therapy for offenders.

The literature has shown that forgiveness therapy is effective in reducing anger (Lin, et al. , 2004). Yet forgiveness therapy interventions have not yet been integrated into the field of anger management (Enright & Fitzgibbons, 2010). Offenders are often placed in anger management classes with treatment manuals for anger that make no mention of forgiveness whatsoever, with others making only a passing reference (Bohensky, 2001; Harbin, 2000; McKay & Rogers, 2000; Potter-Efron, 2010; Rosenberg, 2005). Most anger management manuals (Deffenbacher, Oetting & DiGiuseppe, 2002; Di Giuseppe & Tafrate, 2003) focus on cognitive and behavioral techniques, breathing exercises, and relaxation, with no mention of forgiveness. Most of these existing approaches are largely ineffective, and results from these programs are often minimal and short-term (Heseltine, Howells, & Day, 2010). The field of Anger Management has ignored the concept of forgiveness as a treatment intervention to help clients with anger (Day, Gerace, Wilson, & Howells, 2008).

To test the theory that forgiveness therapy could improve the efficacy of anger management treatment, this author created a new experimental treatment in hopes of providing deeper transformation—not just teaching clients skills to control anger, but

digging deeper to heal what is at the root of the problem. This study will explore the efficacy of this experimental treatment: integrating an intervention promoting forgiveness into existing anger management treatment to determine if this new intervention improves the ability to decrease anger symptoms and improve anger control over treatment as usual.

Integrating forgiveness therapy and anger management could prove tremendously beneficial both to the many clients who struggle with severe anger and to the clinicians who work with these clients. This integration has not previously been researched, and thus requires investigation.

Current Proposal

Considering the high cost of anger, its prevalence in society, and the relative lack of scientific literature relating to the proper treatment of anger, additional research in the efficacy of anger treatment is needed. The current literature shows relatively few outcome studies demonstrating the effectiveness of interventions aimed at decreasing anger symptoms (Heseltine, Howells, & Day, 2010). Meanwhile, the literature does contain a proliferation of published studies demonstrating the efficacy of interventions promoting forgiveness (Baskin & Enright, 2004; Enright & Fitzgibbons, 2010; Wade, Worthington et al., 2005; Wade, Worthington & Meyer, 2005; Waltman, et. al, 2009). Yet these two fields have not come together. It is as if there is one group of scientists studying anger and another group is studying forgiveness, and the two groups have never

met. Very few studies have integrated the constructs of anger and forgiveness together. Therefore, the concept of using forgiveness as an intervention to improve anger is largely unexplored.

The author was drawn to explore the idea of integrating forgiveness therapy into anger management after several years of experience working as a Master's-level therapist. In private practice, clients regularly entered therapy with the presenting problem of needing help in controlling their anger. However, upon further exploration it became evident that most of these clients were struggling with bitterness and resentment from past hurts, which was the primary underlying cause of their anger. When these clients were able to work through their issues of bitterness and resentment by using forgiveness interventions in therapy, their anger symptoms regularly subsided and physical and emotional functioning improved.

The integration of forgiveness into anger management has been anecdotally effective in independent practice, yet research is needed to evaluate the efficacy of this integrative approach. Determining the efficacy of an intervention promoting forgiveness for anger management clients could prove tremendously beneficial for clinicians who work with clients who struggle with anger, and for the clients themselves.

The purpose of this study was to evaluate the efficacy of a treatment for anger that incorporates forgiveness therapy through a randomized controlled trial, determining if this intervention can improve anger reduction, anger control, and forgiveness compared to treatment as usual in a between-subjects design with two conditions.

Hypothesis

The research hypothesis is that an experimental treatment that integrates forgiveness therapy and anger management decreases state anger, increases anger control, and increases forgiveness more than anger treatment as usual. Additionally, it is hypothesized that forgiveness scores predicts the changes in both state anger and anger control over the course of treatment.

CHAPTER TWO: LITERATURE REVIEW

The problems that stem from uncontrolled anger are nothing new. In fact, they are as old as Cain and Abel. Since the beginning of time, men and women have struggled to understand and control the puzzling emotion that we call anger. In the story of the first murder, which is recorded in the Hebrew Scriptures in the book of Genesis, Cain angrily kills his brother, Abel, in a jealous rage when God is pleased with Abel's offering but not Cain's. From this ancient story to the present day, uncontrolled anger has had a rich history of powerful and devastating consequences.

Ancient Hebrews and Egyptians believed that excessive displays of anger were evidence of demonic possession (Isaacs, 1987). A similar belief was later held in the late seventeenth century at the Salem witch trials in colonial America when uncontrolled anger was seen as a proof that someone was a witch (Trask, 1975). Ancient Greeks such as Seneca and Galen described anger as a "bestial passion" or "short madness," what modern day scientists might call a form of temporary insanity. It seems there is great variety in how anger has been described or defined throughout history.

The Ancient Greeks believed that thunder and lightning were expressions of anger demonstrated by the god Zeus. Zeus's brother, Poseidon, like Cain, felt anger and jealousy towards his younger brother. For both Cain and Poseidon, jealousy led to anger and a desire for revenge. Poseidon believed himself to be his brother's equal, and

expressed contempt that Zeus was given power over the Olympians, feeling slighted that he was not given this honor. This jealousy led to fits of rage with Poseidon creating storms, earthquakes, and tumultuous waters to express his fury.

Although jealousy was the cause of Cain and Poseidon's anger, the ancient Gilgamesh Epic (2700 BC) depicts anger taking shape out of a perceived insult. In this legend, Gilgamesh, the god-king of Sumer, rejects Ishtar, causing her rage. Ishtar views this rejection as an insult and a slight, which angers her greatly. In an act of anger to get revenge for this rejection, Ishtar asks her father to release the Bull of Heaven to destroy Gilgamesh. Her response to a perceived insult and rejection is one of anger, violence, and rage to avenge her offender for being wronged.

Like the Gilgamesh epic, anger in Homer's Iliad (8th Century BC) also stems primarily from perceived insults to honor. The Iliad begins with the phrase, "The Wrath of Achilles," and anger is a prevalent feature throughout the first book in the Western canon. Anger is depicted through blazing eyes, tearing hair, threats, violent aggression, and homicide. Characters such as Agamemnon, Achilles, Thersites, Odysseus, Apollo, Aphrodite, and Ares all demonstrate anger in various forms from explosive rage to seething bitterness. For example, when Achilles learns of the death of a friend, he is covered in a "black storm cloud of pain" and becomes "mad with rage," which leads him to kill a prince of Troy and defile his body (Cairns, 2003). Clearly, uncontrolled anger has a long history of devastating consequences. Our history books are full of stories depicting the negative consequences of anger, even in ancient times.

History of Treating Anger

To deal with these consequences, over the course of human history problematic anger has been treated in a plethora of ways from exorcism to hanging to psychotropic medication. Possibly because of the many differing opinions and beliefs about anger, for thousands of years people have struggled to understand how to treat anger, how to lessen the negative consequences of anger, and have debated about the best methods to do so. Over time, philosophers, clergy, psychiatrists and psychologists have tried innumerable strategies in these efforts, always searching for a better way to treat anger.

Appeasing the Gods

The first efforts to control anger were practiced by the Aztecs, who feared the wrath of the gods (Duverger, 1983). The Aztecs believed that harsh weather and natural disasters were signs that the gods must be angry. In an effort to appease the anger of the gods, the Aztecs participated in human sacrifice, sometimes killing small children or young virgins in the hopes that this sacrifice would satisfy the gods' anger.

The Aztecs were not alone in practicing these methods. Throughout history many groups have attempted to appease angry gods in various forms. Horses were sacrificed to the Chinese river god Ho Po (206 BC- 220 AD) and Ancient Koreans gave bits of food and performed rituals to appease angry, hungry ghosts (Lai, 1990). These ancient cultures believed that these acts of sacrifice would avert natural disasters and keep their people safe by soothing the anger of the gods. Although these actions may seem arcane to the modern reader, similar practices still exist in some parts of the world today.

Restraining Anger

The first recorded suggestion of controlling anger in humans was given by the Ancient Greek, Sappho, in 600 BC when he stated, “When anger is spreading through your breast, it is best to keep your yapping tongue in check (Harris, 2001).” This philosophy of restraint towards anger became very popular among the Ancient Greeks, who viewed self-control as a high virtue.

Pythagoras (400 BC) taught that restraining one’s anger by refraining from speaking or acting when angry was wise. He believed these actions would encourage the virtues of temperance and self-control, prized by the Ancient Greeks. Pythagoras also may have been the first to advocate for music therapy when he recommended the use of music to calm inner states of rage and promote a sense of tranquility.

Plato (400 BC) also advised restraint in anger. However, Plato’s reasons were more pragmatic than moral or ethical. He believed that slaves would work harder if they were not treated with anger, and so a master would do well to restrain his anger in order to get the most work out of his slaves. A controlled and temperate master, Plato believed, would have more productive and useful slaves than one who was prone to anger. Some modern day business executives might benefit from this advice.

Sun Tzu (4th Century BC) in the *Art of War* went a step farther when he suggested using the restraint of anger as part of military strategy. His writings depicted anger as a fault upon which military commanders could capitalize. Since an angry or emotional army might fight in an impulsive, undisciplined manner, military commanders

who were able to control their emotions could hold the advantage by capitalizing on those who could not. In this way, Sun Tzo advocated for the restraint of anger to create a military advantage.

In line with Sun Tzo, Greek philosopher Seneca (44 AD) noted that in both sport and war the disciplined combatants regularly defeated the angry ones. Seneca noticed that an emotional combatant would lose reason and discipline in the fight, placing him at a disadvantage. Modern day athletes still use this principle when they attempt to “get under the skin” of their opponents in an effort to make them angry and lose focus. This author once worked with a client who was a professional boxer who agreed with Seneca’s statements. He stated that his favorite opponents were the emotional ones who lost their tempers in the ring, because he could then easily defeat them.

In the same way, second century Roman emperor, Marcus Aurelius, wrote that giving in to anger was “a sign of weakness.” Aurelius recommended postponing vengeance until one is calm in order to better enact a calculated, logical attack. In his *Meditations* Aurelius argued that waiting until one is calm before acting is a wise decision. Again, he argued for restraint for the practical purposes of the advantage it gives to those who can practice it.

Galen (180 AD) stated that, "A man cannot free himself from the habit of anger as soon as he resolves to do so, but he can keep in check the unseemly manifestations of his passion. If he will do this frequently, he will then discover that he is less prone to anger than he formerly was." To promote this virtue of restraint Galen suggested daily selfinspection and reflection to increase awareness and introspection. He also believed

that finding a mentor or a guide that could help an individual learn to monitor his or her anger would be a valuable step. And on a practical note, Galen suggested individuals not associate with those who would give them too much wine, as this could lead to angry actions.

Restraint was also heavily promoted by 19th century Victorians who saw anger as destructive and damaging, an emotion that must be controlled (Stearns, 1992). Previous to the 19th century anger had been exhibited more openly in public and in society, yet the Victorian era brought on a new form of restraint. In Victorian times anger was not allowed, especially in public. This social ban on the expression of anger led to a society that promoted the avoidance of conflict instead of the expression of it.

Failure to control anger was seen for the Victorians as childlike and a moral blemish, giving birth to the word “tantrum” for anger that was childlike, even in adults. Women, especially in their youth, were taught to be calm and placid and never to express anger of any sorts. Suppression was key for women and girls as women were not seen as proper if they expressed anger in any form. Boys, however, were instructed that anger should be channeled and could be useful during activities such as boxing and could even be useful occasionally at work.

However, restraint and suppression of anger have been shown to be ineffective in empirical treatment. Recent studies have found suppression to be an ineffective method for dealing with the expression of anger. Szasz, Szentagotai & Hoffman (2011) did an experimental study measuring the effectiveness of three different strategies for controlling anger. In this study, suppression was found to be the least effective strategy,

and also led to elevated levels of physiological arousal and psychological distress. Additional studies have also indicated the repression is the least effective emotion regulation strategy (Campbell-Sills & Barlow, 2007; Gross, 1998).

Expressing Anger

In contrast to the admonition of restraint, others have advocated for the exact opposite—the releasing or expression of anger. The underlying idea behind this approach is that negative energy can build up over time and accumulate within an individual, and this pent-up anger will lead to future aggressive acts. Proponents of this approach feel that this built-up anger must be drained or let out, fully releasing anger. A therapist might encourage a client to, “get your anger out,” or “blow off steam.” This could be done by punching a pillow, using a punching bag, or violently yelling or screaming. The hope is that this approach would drain the excess pent-up anger or energy the client is experiencing.

Viking warriors, for instance, were encouraged to use anger as way to prepare for battle. It is believed the Vikings instructed their young warriors that anger would help them become more effective and fearless in battle, and would help them not feel pain from the wounds of war. Legends persist to this day of the Viking “berserkers” who would whip themselves into a violent frenzy before battle. Other cultures, such as the Assyrians, Hittites, Celts, and Anglos fomented their anger with dances, body slapping, and grunts to increase a state of ferocity before battle (Speidel, 2002). Modern-day athletes are often seen practicing similar behavior before sporting events even today. The outward expression of anger was also seen as the proper response in Medieval times.

Vendettas between families were common, and anger was seen as the appropriate response to an insult of honor. In these situations anger was viewed as an honorable and noble reaction when one received an insult. Alternatively, restraint in the face of an insult was seen as cowardly and weak. In this sense, responding in anger was often seen as virtuous in this time period in that it restored the honor of someone who had received an insult. Many family feuds persisted for centuries, such as in Shakespeare's *Romeo and Juliet*, to the point where the original offense may have become a distant memory, if it was remembered at all. Of course, the cultural expectation of anger in the face of an insult is hardly confined to the Medieval times. This concept is still a strong value in modern times in much of the world across various cultures and not at all limited to this time period.

Sigmund Freud (1933) believed that the outward expression of anger would lead to catharsis, or an emotional cleansing. For this reason he felt that venting anger was not only helpful and beneficial, and was in fact the best practice for dealing with problematic anger. Freud argued against the restraint of anger, believing that restraining the negative emotion of anger would lead to suppression or repression, which would cause greater problems, such as mental illness and hysteria for an individual. Freud wrote that anger should not be repressed, but should be openly expressed and let out, and that this expression would lead to increased health.

In a similar fashion, Gestalt founder Fritz Perls (1969) advocated for the outward venting of anger. Freud and Gestalt differed in many areas of their therapeutic practice, such as Freud focusing on past childhood experiences and Perls centering his therapy in

the here and now. However, the two agreed on the best strategy to treat anger, which for them was outward expression or ventilation. Like Freud, Perls believed that restraining anger could lead to future harm. Perls went beyond Freud in suggesting in some cases the best practice was to allow a client to scream and push away to fully vent his or her anger. Perls believed that since the anger was there, it must be expressed.

These beliefs led to more recent suggestions that those with anger problems should vent, or let their anger out by hitting a punching bag or a pillow, slamming a door, or beating an object with a stick. Many therapists suggest these actions as a means to “get out” the anger. One extreme approach in this camp of anger management is Primal Scream Therapy, created by Albert Janov. In Primal Scream Therapy clients are physically restrained and held down on the ground and then told to release a primal scream, flail, and physically lash out to vent all of their pent up and repressed emotions. In Spain, a recent movement called “Destructotherapy” suggests participants bash up a junkyard with sledgehammers while listening to heavy metal music.

Siegel (2014) further supported this philosophy by stating,

“Against expert advice, we must learn to express anger without words in its purest, most primal forms: screams, howls, grunts, flailing. This allows us to feel deeply connected to our authentic self and to what we share in common as humans along with other sentient beings. To achieve this we must create safe spaces in our homes and elsewhere...where we can scream, pound pillows, bark, and howl, rather than use words.”

However, the results of psychological research over more than fifty years indicate that catharsis is not an effective strategy for managing anger, and may even have the opposite effect. Research has repeatedly demonstrated that catharsis isn’t helpful, and could actually be harmful. In a landmark study over 50 years ago (Homburger, 1959), a

group of subjects was insulted, and then half were given nails to hammer into a block of wood. Researchers expected this action would make participants less hostile, but found that the opposite was actually true. Participants who hammered nails into the wood after being insulted were *more* hostile than those who did not.

Bandura (1973) argued for a moratorium on catharsis theory and the use of venting in therapy stating that, “venting may inadvertently reinforce aggressive tendencies.” Subsequent research has supported Bandura’s views. Bushman (1999) found that the practice of “letting it all out” actually increases a person’s hostility. Schaefer and Mattei (2005) found that play therapists who allow children to engage in aggressive play, without any attempt to strengthen ego or superego controls against aggression, are likely to increase the chances of future aggressive acts both within and outside the playroom. Tafrate (1995) noted that catharsis may actually increase anger and aggression in adults, making techniques based on catharsis potentially harmful for clients with clinical anger.

This author once worked with a client whose previous therapist suggested he purchase a set of dishes to smash and break to pieces whenever he became angry. Unfortunately for this client, this action is illegal in the state of Colorado and so when he practiced this intervention he was arrested for domestic violence, since destruction of property is a crime and can be seen as intimidating.

Empirical research has consistently shown that the participation of aggressive behaviors leads to more, not less, anger and aggression, as well as increases in hostile attitudes and behaviors (Baron, 1983; Tarfrate, 1995). Lewis and Bucher (1992) noted that the practice of catharsis leads to an escalation in anger. After a thorough discussion

of the topic, they concluded, “it appears that catharsis of anger has no appropriate place in psychotherapy” (pg. 391). The vast majority of scientific research suggests that the outward expression of anger is not an effective strategy in the treatment of anger. Venting simply does not work. In fact, the better people feel after venting, the more aggressive they are (Bushman, Baumeister & Stack, 1999), sometimes even against innocent bystanders.

Reason

In contrast to the highly emotional response of venting anger, many have advocated for a more rational approach, believing reason is the best method to control anger. Plato illustrated this point when he wrote, “The charioteer of reason must master the wanton black horse of passion,” advocating for the rational control of the powerful emotion of anger.

Lucius Seneca (44 AD) believed that anger could be fully eradicated and mastered by reason, will and self-control, which would lead to the tranquility of the mind. Seneca believed so strongly that anger came from reason that he went as far as to say that he believed animals lacked the ability to become angry because they lack reason.

Thomas Aquinas (1273) also argued for a more rational approach. He believed that an individual could develop the virtue of controlling emotions and could learn to master his or her temper, as long as that individual was not surprised by an event. Aquinas believed that each person has the power to choose whether or not he or she contemplates an event and for how long. This, in turn, according to Aquinas would determine if that person becomes angry or not. For Aquinas, like modern day cognitive

therapists, anger stemmed from the way a person chose to think about an event. If a person is able to train himself not to think on an event, then he or she could with reason change the way he or she views the event and the emotion that comes with it.

The largest proponents for reason may have been 18th century philosophers of the enlightenment who emphasized reason, education, and tolerance in dealing with emotions and held a firm disapproval of the outward expression of anger. Many philosophers of the enlightenment held tremendously high viewpoints of reason, believing humans held almost infinite potential, and stating that reason was the ultimate answer to many of life's questions. In contrast, the outward display of emotional passions such as anger was seen as a sign of weakness since it defied reason.

In like fashion, modern day cognitive behavioral founder, Albert Ellis (1976), believed that anger can and should be eradicated through logical thought processes. Ellis founded a theory of psychotherapy built upon thoughts in which clients are taught to learn to view their problems from a different perspective. If a client can learn to view his or her problem without cognitive distortions present, his or her anger will decrease in that he or she now has a more objective, logical, and rational perspective. Ellis's belief in reason was so strong that he originally named his theory "Rational Therapy" before later renaming it "Rational Emotive Behavioral Therapy."

For Ellis, an angry person needs to learn to see his or her problem with a different lens or perspective. Even though the situation itself has not changed, if a person can learn to see the problem from a different viewpoint, the person will experience the situation a

differently and will in turn change his or her emotional experience. By changing the way person thinks or reasons, Ellis believed a person could change the feelings that go with a situation.

Recent studies have indicated that cognitive reappraisal is an effective strategy in emotion regulation. Mauss et al. (2007) found that trait reappraisal moderates state anger in a situation of anger provocation. Additionally, Memedovic, Grisham, Denson, & Moulds, 2010) demonstrated that participants high in trait reappraisal showed attenuated anger and blood pressure in response to anger provocation.

Spirituality

Instead of relying on human intellect and reason, many others have turned to divine guidance and spirituality for direction in addressing anger. In contrast to many of the previous approaches, Buddhist teaching (6th Century BC) does not instruct individuals to restrain, express, or think through anger. Instead, Buddhism suggests that anger is a form of suffering, arising from the practice of holding on to the thought that one has been insulted. Since individuals hold on to the thought that they have been injured, they experience pain and suffering because of this action.

Therefore, the solution to managing anger for a Buddhist is to “bind the mind” to dismiss these thoughts. Through this process of letting go one can relinquish the belief that one was insulted, leading to a place of release which creates an inner peace. Buddhist thought holds the belief that anger is a “moral blemish” and must be eschewed in order to

create a state of enlightenment. If an individual chooses to release the thought, they will become free of the suffering that is anger, and the anger will simply fade away (Vernezze, 2008).

In Christianity, anger or wrath is recorded as the fourth of the seven deadly sins (Galatians 5:19-21). The Catholic Church, in particular, has viewed anger as a mortal sin and has argued against the dangers and evils of anger for centuries. Christians are admonished to stay away from this deadly sin or face the perils that are associated with it. Dante's *Inferno* (1308 AD) illustrates these dangers in a depiction of the fifth circle of hell as a burning marsh for the wrathful where the damned angrily claw each other.

Anger was viewed as so overwhelmingly negative in Christianity that in 400 AD St. Augustine wrote that despite Biblical texts that seem to indicate otherwise, he believed it was not possible for God to become angry. He found it inconceivable to come to terms with the goodness of God expressing what he saw as the negative emotion of anger. St. Bernard of Clairveux (1140) compared anger to a dragon, and argued that Christians should follow the example of Jesus in practicing meekness and turning the other cheek instead of acting out in anger.

However, the apostle Paul instructs in the letter to the Ephesians, "in your anger do not sin," creating an intriguing instruction to his followers. This admonition seems to imply that anger itself is not a sin, and furthermore, that one can actually be angry without sinning. For instance, the New Testament describes Jesus as being angry on multiple locations, including an incident where he overturns tables in the temple in Jerusalem and uses a whip to force the money changers outside. Christian doctrine holds

that Jesus was without sin, which would mean that he could not have sinned in these instances. Therefore, it appears Jesus' anger may be an example of Paul's idea of becoming angry without sinning.

By instructing followers not to sin in their anger, Paul seems to be arguing that anger itself is not the actual problem. Rather, the problem is the act of sinning while one is angry. This of course opens the door to the possibility that anger might not always be wrong or sinful, and could in some situations even be seen as righteous or proper.

Thomas Aquinas further explained in 1273 that there is a difference between righteous anger and sinful anger. For Aquinas, righteous anger can only take place in response to evil. Because righteous anger fights evil, Aquinas believed that righteous anger was not only permissible, but actually praiseworthy. Lorens d'Orleans (1279) furthered this point when he stated that, "there is a kind of anger that holy men have which arises from their hatred of evil and is used to fight wrong." In this sense righteous anger is seen as honorable and praiseworthy. On the other hand, Aquinas believed that sinful anger was uncontrolled rage that did not fight against a wrong, but only lashed out irrationally. Because of this, righteous anger is seen as holy while sinful anger is seen as sinful.

This line of thinking mirrored earlier writings by Aristotle, who posited that anger could have positive qualities, such as having some use in fighting injustice. In *The Nicomachean Ethics* Aristotle described anger's ability to be both just and virtuous in his famous line:

Anybody can become angry - that is easy. But to be angry with the right person and to the right degree and at the right time and for the right purpose, and in the right way - that is not within everybody's power and is not easy.

Aristotle believed that anger had redeeming qualities and potential to be used for good. When used properly, anger was not entirely negative, but had the ability to encourage people to seek justice, oppose injustice, and fight for what is right.

The apostle Paul wrote elsewhere that one should not “let the sun go down on your anger,” suggesting that it might be permissible for a Christian to be temporarily angry, but that he or she should not hold on to this anger for any length of time. Paul seemed to suggest that an individual should work through their negative emotions and come to a resolution within the same day instead of holding them in. He went as far as to say that repressing anger in this way would be, “giv[ing] the devil a foothold.” Paul apparently believed that holding anger in or repressing it was so negative that these actions could enable the devil to intervene in one’s life.

Neuroscience

A more recent approach to treating anger looks at the emotion not through a spiritual lens, but through a biological one. Scientists have recently considered anger in terms of brain science. This approach looks at the chemical reactions of the frontal cortex, brainstem, and limbic system in an attempt to better understand what happens in the brain during anger.

Neuroscience argues that anger is caused from the perception of a threat which triggers an autonomous response known as the fight or flight reflex. When this happens, the amygdala evaluates if the stimulus is potentially threatening. If the amygdala judges that the input is threatening, it activates lower levels of the brain. This leads to

sympathetic arousal in the body, which leads to increased heart rate, rapid breathing, dilated pupils, and other autonomic responses. This then leads to the adrenal gland releasing the hormones adrenaline and noradrenaline into the bloodstream, leading to a state of aroused anger, tensing of muscles and increasing oxygen demands on the body.

Sapolsky (2004) describes that the stress response was originally intended to provide an extra boost of strength for immediate short-term needs. During the “fight of flight” reflex, the body biologically prioritizes functions that are needed for immediate action, such as when a zebra is fleeing from a lion (or when a lion is chasing a zebra). Some functions such as heart rate, vision, and breathing are altered in order to give strength to either fight back or to get away. Other functions, such as digestion and reproductive functioning, are deemed less valuable in an emergency situation, and are deprioritized.

Someone with chronic anger problems will put his heart, blood vessels, and kidneys in overdrive and have them function at a higher level than is healthy, eventually burning them out. This will lead to plaque that appears on the blood vessel and clogs the heart, explaining why many people with chronic anger also have high blood pressure and sometimes report chest pain.

Many neuroscientists believe that the level of reactivity to this stress response (commonly known as the “fight or flight reflex”) may be inherited, creating variable degrees for which individuals can activate the response. In other words, some individuals may be genetically predisposed to heightened sensitivity to the fight or flight reflex and subsequent arousal response (Gintner, 1995).

Due to understanding anger in a chemical context, some psychologists and psychiatrists recommend psychotropic medication to help stabilize and treat this biological reaction. Some prescribe medication to control the levels of adrenaline and noradrenaline in body, lowering the level of sensitivity and reactivity to this reflex and creating a “longer fuse” for individuals (Bagby, Kennedy, & Schuller et al., 1997; Mandoki, Sumner, & Matthews-Ferrari, 1992). Through these interventions, some clients find they do not react as quickly and increase the threshold of their fight or flight response.

Glancy and Knott (2002) found several pharmacological agents that were efficacious in managing maladaptive anger. These researchers created an evidenced-based model for treating anger and aggression with medication, and strongly suggest that pharmacologic agents are most effective when used with adjunctive psychosocial therapy.

In the same way, social psychologist James Averill (2013) argued that biological factors alone account for the lack of control of anger in individuals. Therefore, he stated that because these biological factors cannot be changed, treating individuals for anger through psychosocial treatments was a fruitless effort. Averill went as far as to state that therapeutic interventions were not worthwhile since they cannot change a person’s biology. He argued instead that society must make rules for the expression of anger to minimize its costs, and society must uphold accepted standards of conduct, forming a social constructionist view of anger. Instead of addressing anger from an individualistic standpoint, society as a whole must change.

Modern Approaches

A review of the literature indicates that cognitive behavioral and rational-emotive interventions have received the most research support for the treatment of anger (Thomas, 1998). Most current approaches to controlling anger are based on cognitivebehavioral interventions for both children and adolescents (Snyder-Badalu & Esquivel, 2005), and adults (Beck & Fernandez, 1998). Many treatments also include relaxation techniques and stress management skills to decrease the arousal level of anger (McKay & Rogers, 2000).

Novaco (1975) suggested an integrated approach of stress inoculation and relaxation skills to control the anger arousal process and cognitive interventions to moderate thoughts and feelings. Lazarus (1991) argued for a multimodal approach with imagery and sensations to address cognitive, motivational, and relational triggers. Although lacking empirical support, other approaches follow a psychodynamic perspective in uncovering anger from early childhood and adolescence (Carter & Minnith, 1993).

More recent treatments include relaxation, progressive muscle relaxation, systematic desensitization, meditation, biofeedback, self-instructional training, cognitive restructuring, social skills training, problem solving, assertiveness training, exposure, flooding, education, and stress inoculation. (Di Giuseppe & Tafrate, 2003). Clearly, history has shown a wide variety of approaches when it comes to treating anger. Even more, it is hard to imagine another area of mental health that has received more divergent suggestions for treatment than anger.

Practitioners and researchers widely disagree as to best practices in treating anger. It would be entirely possible for a client to visit five different therapists for the treatment of problematic anger and to receive five entirely different courses of treatment. One therapist might suggest the outward venting of anger and letting it out, while another would argue for restraint and holding anger in. One might suggest cognitive thinking exercises to improve thinking and reason while another could prescribe bodily relaxation and breathing techniques to improve physiological control of anger arousal. One might focus on anger in the here and now, while another would want to uncover deep childhood wounds and how they are impacting current problems. Beyond differing in opinion, the various treatments for anger often directly contradict each other, further leading to confusion as to the best practices in the treatment of anger.

Saini (2009) went as far as to state, “There is no clear evidence to guide mental health professionals in assessing and treating angry clients” (Saini, 2009), and Kobayashi and Norcross (1999) added, “Without a consensus on the identified phenomenon, we will continue to disagree on the proper psychotherapy of anger disorders.”

Outcome Studies in Anger

With the many differing approaches to treating anger, there is little surprise that there is also great variation in the results of outcome studies in anger. Recent outcome studies in anger provide mixed reviews, with some even conflicting with each other. Some studies support the efficacy of psychological treatments for anger. However, other outcome studies suggest that anger management is not effective, and in some cases may even be harmful.

Positive Outcome Studies

Some recent outcome studies have demonstrated the efficacy of some treatments in decreasing the symptoms that are associated with problematic anger. Kassirer & Tafrate (2002) reported that successful use of anger management treatment in both individual and group settings has demonstrated the ability to decrease the physical arousal of anger, improve irrational angry cognitions, and increase the ability for problem solving. A number of interventions have been shown to both decrease the expression of problematic anger as well as increase the ability to control anger.

Beck and Fernandez (1998) conducted a meta-analysis of 50 studies incorporating various treatments for anger, and found that the treatments produced a grand mean weighted effect size of 0.70, indicating that the average participant in a treatment condition was better off than 76% of untreated participants in terms of anger reduction. DiGuiseppe and Tafrate (2003) examined the efficacy of 92 treatments of anger that incorporated 1,841 subjects. The investigators found an overall effect size of 0.71, with no significant main effect for the different treatment modalities, suggesting that subjects who received treatment showed a reduction in anger and an increase in positive behaviors compared with untreated subjects. Edmonson and Conger (1996) conducted a comprehensive meta-analytic review that found that the average effect size for various treatments (i.e., relaxation, social skills, cognitive therapy) for anger ranged from 0.64 to 0.82.

Del Vecchio and O'Leary (2004) conducted a meta-analytic review including studies between 1980 and 2002 that included only noninstitutionalized adults with high

levels of anger as determined by standardized measures. The authors found medium to large effect sizes (0.61 to 0.90) across different forms of treatment, with cognitive therapies most effective for improving trait anger (the general personality or temperament of anger) and relaxation techniques most effective in reducing state anger (the intensity of angry feelings at the time of test administration).

In an attempt to develop guidelines for an evidence-based practice for anger, Saini (2009) conducted a meta-analysis with 96 studies that included cognitive, cognitive behavioral, exposure, psychodynamic, psychoeducational, relaxation-based, stress inoculation, and multicomponent strategies. He discovered that the overall weighted standardized mean difference across all treatments was 0.76, which suggests that most published treatments are generally effective in treating anger, though there is a considerable amount of variability in the effect sizes of different treatments.

Sukhodolsky, Kassinove, and Gorman (2004) conducted a meta-analysis of treatment outcomes for programs that exclusively used cognitive-behavioral therapy for anger-related problems in children and adolescents and found that the mean effect size was 0.67. Skills training, problem solving, and multimodal interventions yielded the greatest benefit in reducing aggressive behaviors and improving social skills.

Dahlen and Deffenbacher (2000) compared cognitive restructuring alone, cognitive restructuring with additional emphasis on behavioral change, and a notreatment control condition. Researchers found that both treatment groups showed reductions in

trait anger; cognitive, behavioral, and emotional components of anger; and anger-related physiological arousal when compared with the control condition. However, there were no significant differences between the two treatment conditions.

These studies have repeatedly demonstrated the effectiveness of anger treatments compared to the control groups. Although disagreement remains as to the most effective treatments to use in treating anger, it has been demonstrated that some treatment is better than none. Through these studies it has been established that anger treatments are more effective than no treatment and clients who participate in anger treatment benefit more than those who do not.

Additionally, treatments for anger have been effective with a variety of populations. Saini (2009) noted that there is evidence that treating anger is effective across diverse groups including persistently violent male prisoners, adults with intellectual and learning disabilities, forensic patients, angry parents, female batterers, mental health patients, undergraduate students, incarcerated male juveniles, male batterers, aggressive drivers, faculty members, Vietnam War combat veterans, and patients with schizophrenia. Other research noted that anger interventions have been used successfully with physically abusive parents (Reid & Kavanaugh, 1985), and adolescents with anger problems (Feindler & Ecton, 1986).

Anderson, et al. (2013) conducted a study of U.S. Air Force couples and was able to demonstrate the increase of anger management skills for those participating in the Prevention and Relationship Enhancement Program (PREP). Marriage education programs such as PREP have been identified as valuable interventions for the prevention

of spousal maltreatment (Slep & Heyman, 2008). Although PREP has not been empirically tested as an anger management tool and is not explicitly used in this way, it has been shown to improve communication skills and decrease the frequency of physically violent behaviors (Markman et al., 1993).

Researchers found that there was a statistically significant improvement in anger management skills for couples who participated in the program (anger pretest $M = 32.2$, $SD = 4.2$; post-test $M = 34.6$, $SD = 4.0$, $F(1, 74) = 31.79$, $p < .001$). It appears that the couples in the PREP program were able to increase their anger management skills through learning more effective communication and conflict resolution skills in the program, which translated to an increased ability to control their anger when disagreeing with each other.

Negative Outcome Studies

However, some treatments for anger have not been found beneficial to the extent that some researchers have actually recommend against the use of anger management treatment. Heseltine, Howells, and Day (2010) conducted a controlled outcome study of an anger management program offered to offenders. Results showed that brief interventions with offenders improved knowledge about anger, but showed little change in anger expression compared to wait-list controls, suggesting these programs are ineffective in improving anger symptoms. Howells and colleagues (2005) found that anger management was ineffective with violent offenders, showing no statistical difference between experiment and control conditions on a range of dependent measures.

Babcock, Green and Robie (2004) noted that treatment effects for domestically violent males were small, meaning that the current interventions have a minimal impact on reducing recidivism beyond the effect of being arrested, suggesting there was little value to these treatments. Gondolf and Russell (1986) recommended against the use of treatments for anger for men who batter because of a lack of empirical support of its efficacy. The authors stated concern that using anger treatments with batterers may not be effective and actually have the potential to cause harm.

Watt and Howells (1999) raised additional questions in their study of the efficacy of treatments for violent offenders. Participants were randomly assigned to either a treatment or a waitlist control condition, and the results provided little support for treatment gains for participants in the treatment condition compared to the waitlist control. Specifically, no differences were found between the two conditions for clients with a high degree of trait anger (the general personality or temperament of anger). Because of these findings the authors cautioned against the use of anger treatments with violent offenders. Napolitano and Brovra (1991) further argued that individuals incarcerated for murder tend to rebel against anger treatments by actively defending their actions, making the treatments ineffective and not worthwhile.

Additionally, there is some question as to the effectiveness of anger treatment with adolescents (Graham, 1998). There is particular debate over the long-term effectiveness and sustainability of these treatments with the adolescent population (Stallard, 2005). Many treatments seem to show short-term gains with adolescents, but long-term effects are largely not demonstrated (Cole, 2008).

In sum, some research suggests that clients with a high degree of trait anger, clients with excessive displays of anger episodes, batterers, those classified as violent offenders, and adolescents do not seem to benefit from traditional anger management approaches and have not shown significant improvement through these methods. Other treatments seem to have short-term benefits that do not show sustained success. A validated treatment for anger has not yet been found effective with these populations. Clearly, there remains a need for the validation of a treatment that is tested on actual treatment-seeking clients that will effectively decrease anger symptomology and improve anger control, especially among clients with high levels of anger who may also be violent offenders.

Limitations in Anger Research

Additionally, there are some significant limitations in the study of anger. For instance, many studies in anger are conducted using an undergraduate college population instead of using participants with actual anger problems or clients enrolled in anger management programs. Del Veccinio and O’Leary (2004) specifically noted the need, “for outcome research in anger with treatment-seeking individuals and clinical populations.” Olatunji and Lohr (2004) added to this point, “What is needed is well-controlled outcome research on high-anger individuals with genuine problems in functioning and rigorously diagnosed disorders.”

There is a significant lack of studies that incorporate actual clients who are seeking treatment for anger, especially those with high degrees of anger. This difference

in the research sample raises obvious concerns about the validity and generalizability of the research findings, and questions the findings and effectiveness of various anger treatments.

For instance, Deffenbacher, et al. (2000) evaluated the efficacy of a treatment for anger reduction by using 69 undergraduate students in a college population. Goldman and Wade (2012) completed a randomized-controlled trial between an anger treatment and a forgiveness treatment with 112 college students. Moon and Eisler (1983) randomly assigned 40 undergraduate participants to a study to test anger-provoking cognitions and assertiveness. Deffenbacher, et al. (1988) used data that consisted entirely of college participants for a component analysis to evaluate and determine the effective components of anger treatment. Many other studies (e.g., Johnson & Connelly, 2014; Szasz, Szentagotai & Hormann, 2011; Trew & Alden, 2009) utilize volunteer undergraduate populations in anger research.

Additionally, because of the lack of diagnostic criteria for problematic anger in the DSM-V (as mentioned above), there is some confusion as to how to define and understand what constitutes problematic anger. Since there are not clear diagnostic criteria, it is difficult to specifically define and differentiate problematic anger from “normal” anger, causing debate between researchers. This makes researching anger even more difficult, creating additional problems in how to measure and discern, and define problematic anger in research studies.

Moreover, since anger is a “normal” emotion experienced by all people to some degree at some point, there is confusion and debate as to deciding when the expression of

anger should be understood as normative and when it should be viewed as problematic or pathological. There is also an absence of an established theory of anger, which further makes the differentiation between normal and pathological anger much more difficult (Tafrate et al, 2002).

Because of these differences, there is little agreement among researchers (and possibly even less among practitioners) as to how to define “problematic anger.” Researchers tend to define anger problems psychometrically through cut-off scores on a scale rather than based on a theoretical model of what clinical anger may look like (DiGuiseppe & Tafrate, 2003). The lack of clear guidelines as to how to define problematic anger creates obvious concerns with the study of anger and anger control.

There is also a lack of component-controlled studies for anger, making it difficult to determine which specific treatments operate as the mechanisms for change (Olatunji & Lohr, 2004). Although studies seem to indicate that anger treatments are effective, because of the lack of these component studies, it is difficult to determine why the studies are effective and what is causing the change to take place. The scarcity of these studies leaves a question as to which characteristic or specific treatments are operating as the mechanism of change in anger treatment.

Finally, there may be other non-specific factors, such as therapeutic alliance, that may be influencing the treatment of anger (Howels & Day, 2003). Very little attention has been given to the specific efficacy of the components of these treatments.

The Study of Forgiveness

In contrast to the lack of attention given to the study of anger, the study of forgiveness is rapidly expanding within the field of psychology, gaining a tremendous amount of interest among both clinicians and researchers in recent years. Before the 1990s very few articles were published that focused on using forgiveness as a clinical intervention with clients. Forgiveness was primarily thought of as a spiritual concept relegated to the clergy, and not part of the psychological domain. However, since 1990 over a thousand psychological studies of forgiveness have been published (Worthington, 2005), and scientific research in forgiveness has increased exponentially. Social scientists in a variety of fields have discovered the various benefits of using forgiveness as an intervention with clients and researchers have repeatedly shown the effectiveness of using interventions promoting forgiveness. Due to these recent discoveries, the body of research in clinical approaches to forgiveness is increasing at a rapid rate.

Definitions

There is confusion in both popular and professional literature regarding the definition of forgiveness. The construct of forgiveness is frequently misunderstood with clinicians, researchers, and clients holding different definitions of what the term “forgiveness” actually means. Enright & Fitzgibbons (2010) commented that many of the arguments against forgiveness therapy come from a misunderstanding of an accurate definition of forgiveness. For instance, clients may enter therapy with a preconceived notion of what the term “forgiveness” means, which may differ from how the therapist is

using the term. Some clients may initially believe that the term “forgiveness” is synonymous with condoning or excusing the harmful act, which is not at all what the forgiveness therapists would posit.

Because of this confusion, Wade and Worthington (2005) found that one of the common factors in successful forgiveness interventions is taking the time to specifically define forgiveness and to clarify the differences between forgiveness and other concepts, such as reconciliation or overlooking the wrong.

Worthington (2005) defines forgiveness as. “a conscious, deliberate decision to release feelings of resentment or vengeance toward a person or group who has harmed you, regardless of whether they actually deserve your forgiveness” (p. 3). Forgiveness involves a release of the victim’s bitterness and vengeance while at the same time acknowledging the seriousness of the offense. Forgiveness does not imply forgetting, condoning, reconciling, accepting, justifying, excusing, overlooking, or releasing the offender of his or her responsibility (Baskin & Enright, 2004; Wade, Worthington, & Meyer, 2005).

Increases in forgiveness have been shown to bring about the reduction of negative thoughts, emotions and behaviors that include pain, hurt, anger, and bitterness. Additionally, higher levels of forgiveness have been shown to increase positive thoughts, feelings and behaviors towards the offender, including compassion, understanding, and mercy (Enright & Fitzgibbons, 2010).

The following definition of forgiveness offered by Enright & Fitzgibbons (2010) was chosen as the theoretical ground from which to conduct this study:

People, upon rationally determining that they have been unfairly treated, forgive when they willfully abandon resentment and related responses (to which they have a right), and endeavor to respond to the wrongdoer based on a moral principle of beneficence, which may include compassion, unconditional worth, generosity, and moral love (to which the wrongdoer, by nature of the hurtful act or acts, has no right. (Enright & Fritzgibbone, 2010, p. 24)

Outcome Studies in Forgiveness

Forgiveness interventions have been empirically proven to increase levels of forgiveness, decrease negative symptoms, and increase positive symptoms in a variety of different contexts. Interventions promoting forgiveness have been proven effective for clients who have struggled with a variety of issues, including marital and family issues, depressive disorders, anxiety disorders, and even patients with coronary heart disease (Enright and Fitzgibbons, 2010; Waltman, et. al, 2009). Past studies have found that these interventions help people resolve anger and bitterness, reduce depression and anxiety, and increase hope and self-esteem (Baskin & Enright, 2004; Wade, Worthington et al., 2005). Forgiveness therapy has also had strong results with a variety of populations, including adult children of alcoholics, incest survivors, men whose partners had an abortion, and elderly women (Freedman & Enright, 1996; Coyle & Enright, 1997).

To examine the effectiveness of interventions that promote forgiveness, Wade, Worthington and Meyer (2005) completed a meta-analysis of 27 published studies that contained 39 group interventions that were intended to explicitly promote forgiveness, 10 alternate treatments where forgiveness was not explicitly a focal point of treatment, and 16 no-treatment control groups. In general, the authors found that forgiveness interventions were effective in helping people to become more forgiving in comparison to alternative treatments or no treatment. The largest effect size was found for treatments

that were classified as explicit forgiveness treatments. Both explicit treatment and alternative treatments were significantly more effective than no treatment in promoting forgiveness. Researchers noted that the mean weighted effect size for full interventions was .77 (95% confidence interval = .70 to .84). Longer treatments were more effective than shorter treatments, and even after controlling for time, explicit forgiveness treatments and longer treatments were more helpful in promoting forgiveness than general treatments or shorter treatments (Wade, Worthington & Meyer, 2005). Thus, full forgiveness treatments that were explicit to forgiveness yielded the strongest results.

Baskin and Enright (2004) completed a meta-analysis of 9 published studies that investigated the efficacy of forgiveness interventions. Participants in these studies had experienced various injustices and were from diverse populations. Study participants included elderly women, incest survivors, men who were hurt by the abortion decision of a partner, undergraduate students, and parental-love-deprived college students. Length of participation in the studies varied widely, from 1 hour to 13 months of treatment.

When compared with control groups, measures of forgiveness and other emotional health measures for participants in treatment groups showed significant improvement over alternative treatment or no treatment. After a theoretical discussion on the nature of forgiveness and the best methods to improve forgiveness, researchers organized the nine studies into three categories: decision-based interventions, processbased group interventions, and process-based individual interventions. Decision-oriented interventions are based on theory that views forgiveness as a decision that a

victim makes. Process-oriented interventions are based on theories that understand forgiveness as a process on which a victim works. Researchers then compared data for these three groups.

Data suggested that decision-based interventions did not significantly promote forgiveness (average effect size = -0.04) or psychological well-being (average effect size = 0.16). Process-based interventions (both individual and group) showed significant effects in improving these variables (average effect sizes of 0.83 and 1.66, respectively).

Baskin and Enright (2004) concluded that interventions that were process oriented were more successful in creating change than decision-based models. They also noted that shorter interventions (12 sessions or less) had smaller effect sizes than longer interventions (more than 12 sessions), and that individual treatment yielded stronger results than group treatment in increasing levels of forgiveness. Researchers concluded that based on these results the best method for promoting forgiveness was a long-term, process-based, individual intervention as compared to a short-term, decision-based, group intervention.

In a separate study to determine the long-lasting effects of a forgiveness intervention, Blocher & Wade (2010) tested the sustained effectiveness of a forgiveness intervention by contacting participants from an earlier study for a follow-up two years after completing the original study. Participants from the original study were undergraduate college students who had been randomly placed in a forgiveness group, a

process group, or a wait-list control. These participants were then invited two years later to participate in this study to test the lasting effects of the original study. 28 individuals participated in the original study, with 16 of the 28 participating in this follow-up study.

Results of the TRIM Revenge scale, a measure used to determine desire for revenge, indicated that changes in the desire for revenge from pre- to post-treatment were sustained for the two years after the treatment. Other scores showing significant differences were found between post-treatment and follow up, suggesting that reduced negative reactions toward the offender continued for two years after the treatment. These data seem to suggest that forgiveness interventions may have long-lasting therapeutic effects.

Other studies, however, showed that forgiveness interventions did not increase forgiveness levels more than alternative treatments. Wade & Meyer (2010) compared a brief group-based explicit forgiveness intervention with a process group and found that both group formats were more effective than no treatment, resulting in less revenge, less negative reactions toward the offender, and fewer psychological symptoms. However, the two treatments did not differ from each other on any of the outcome variables.

Wade, Worthington & Haake (2009) completed a randomized clinical trial of explicit forgiveness interventions to compare them with therapeutic alternative treatments. They discovered that participants experienced reduced unforgiveness and increased forgiveness regardless of treatment condition. Researchers concluded that the type of treatment may not be as important as common factors in the interventions, and

that elements that are shared by different psychotherapy approaches, such as therapeutic alliance, may be more important for treatment efficacy than the ingredients of the specific therapies (Wampold, 2001).

Based on the above forgiveness outcome research, it appears that interventions specifically designed to promote forgiveness outperform no treatment, wait-list, and placebo treatment groups (Baskin & Enright, 2004; Wade et al., 2005). Although these studies have shown the efficacy of forgiveness interventions in increasing forgiveness, and in some situations mental health, what has not yet been examined is whether an intervention designed to promote forgiveness could decrease negative anger symptoms in clients with severe anger problems. Interventions promoting forgiveness with samples of individuals with significant anger have not yet been studied.

Integrating Forgiveness and the Treatment of Anger

The idea of using forgiveness as an intervention to treat anger is hardly new. Over two thousand years ago Greek and Roman philosophers argued that forgiveness could help decrease anger (Plutarch, 1939; Seneca, 1958). For centuries members of the clergy have recommended forgiveness as a means to decrease anger (Smedes, 1984). Alcoholics Anonymous repeatedly mentions the importance of forgiving resentments in hopes of resolving anger in “The Big Book” (Chapters 5 and 6), *Twelve Steps and Twelve Traditions* (Step 4, Step 10), and in the book *As Bill Sees It*. Many cultures and different religions around the world have recognized forgiveness as an important way to resolve anger and restore hope (Enright & Fitzgibbons, 2010).

However, Fitzgibbons (1986) and Hope (1987) noted that because forgiveness has long been identified with religion, it has not been widely used for the treatment of anger by mental health professionals. For example, most anger management manuals make no mention of forgiveness whatsoever, while others make only a passing reference. Despite the long-standing relationship between forgiveness and anger, scientists are just beginning to study this relationship. Thus, there is a gap in the literature in regard to using forgiveness as an intervention to improve anger.

Research Findings

Although limited research has been done on the integration of forgiveness and anger in therapy, scientists have discovered that there is a significant relationship between anger and forgiveness. Several cross-sectional and longitudinal studies have demonstrated inverse relationships between forgiveness and anger (Fincham & Beach, 2002; Huang & Enright, 2000; Van Oyen-Witvliet et al., 2001). In various populations, those with higher reported scores on anger scored lower on forgiveness scales.

Berry, Worthington, O'Conner, Parrott, and Wade (2005) demonstrated that trait forgiveness was negatively associated with trait anger ($r^2 = .48, p < .001$) in a correlational survey of 179 undergraduate students from a mid-Atlantic state university. Barber, Maltby, & Macaskill (2005) explored the relationship between forgiveness and anger rumination in their study of 200 university students in the United Kingdom and determined that angry memories were a significant factor in forgiving oneself.

Although repeatedly significant, the observed size of the relationship between forgiveness and anger has been variable in different studies. Gisi & D'Amato (2000)

noted a significant but weak inverse relationship between anger and forgiveness ($r^2 = -.24, p = .044$) in a study of adults with traumatic brain injuries. As anger increased, forgiveness decreased, although there was a relatively weak correlation between the two variables. In contrast, Seybold, Hill, Neumann, & Chi, 2001) found a very large relationship between anger and forgiveness ($r^2 = .56, p < .001$) among 68 community adults with a variety of immunological, psychophysiological, and other physiological factors. Higher levels of forgiveness correlated strongly with lower anger.

Rohde-Brown and Rudestam (2011) studied the role of forgiveness in divorce adjustment, and found that there were significant relationships between being in an angry feeling state and harboring a lack of forgiveness towards the ex-spouse. Participants who reported high levels of state anger also reported low levels of current explicit forgiveness ($r = -.303, p = .023$) and forgiving affect ($r = -.459, p < .001$) toward their ex-spouse.

Additionally, Welton, Hill, and Seybold (2008) studied 63 couples who were in the process of terminating their relationship and were participating in mediation to work out the terms of their divorce. Participants completed measures of anger, empathy, cognitive perspective taking, and three measures of forgiveness. The measures of forgiveness used in this study were the TRIM (McCullough, 1997), a measure of unforgiving motivations, the behavior subscale of Wade's Forgiveness Inventory (Brown, et al, 2001) to measure forgiving behavior, and a Forgiveness Single Item (FSI) measure (Worthington, et al., 2000) to assess the degree to which a person was able to forgive the other person.

Participants were given the survey immediately following the completion of their mediation process, with the hope that this would produce an *in vivo* environment since participants had just experienced a situation that was potentially emotionally volatile. Because of this design and the use of actual clients in a current state of distress, this study seems to have increased external validity compared to previous laboratory-based studies. Conducting the study in a real-life situation makes the study more generalizable than studies that ask participants to consider written vignettes.

Results suggested that anger predicted levels of forgiveness with some measures but not with others. Anger was found to have a small but significant relationship with forgiveness ($r^2 = .04, p < .05$). This relationship was observed when using a measure of forgiveness that emphasized revenge, avoidance, and a more emotional dimension of forgiveness. The largest predictor of forgiveness was empathy, which showed a much stronger correlation ($r^2 = .26, p < .001$).

Another study demonstrated that patients with chronic back pain who had higher scores on a forgiveness scale reported lower levels of anger, pain, and psychological distress (Carson et al., 2005). In this study state anger largely mediated the association between forgiveness and psychological distress, as well as some of the associations between forgiveness and pain. These findings suggest that a relationship exists between forgiveness, anger and pain in patients with chronic low back pain. Clients who experienced more pain had lower levels of forgiveness, suggesting that a successful forgiveness intervention may actually have the potential to lower levels of back pain.

Chan and Arvey (2011) found that the forgiving personality trait serves as a moderator between perceived severity of an unfair event and victims' revenge behavior. They determined that the character trait "forgivingness" attenuated the positive relationship between perceived unfairness and revenge, such that individuals who scored high on forgivingness, compared to their counterparts, were less likely to take revenge when they perceived unfairness. The study showed that victims' forgivingness buffers the relationship between perceived severity of an unfair event and victims' revenge behavior. In short, those who were more forgiving were less likely to take revenge.

Moore and Dahlen (2008) found that in a study of aggressive driving more forgiving participants reported less anger across a variety of potentially provoking driving situations. These forgiving individuals also engaged in fewer aggressive behaviors while driving and displayed less driving anger expression. Analysis showed forgiveness to have an inverse relationship with anger.

Lin and colleagues (2004) used forgiveness therapy as an intervention for patients with substance dependence at a residential treatment facility. Participants who completed forgiveness therapy, in comparison to an alternative individual treatment, had more improvement in total and trait anger, depression, total and trait anxiety, self-esteem, forgiveness, and vulnerability to drug use than did the alternative treatment group. This study was able to demonstrate that an intervention promoting forgiveness was able to reduce problematic anger, among other positive outcomes among a population of chemically addicted adults in a treatment facility.

Luskin, Ginzberg, and Thoreson (2005) completed a randomized controlled study of a forgiveness intervention with 50 college students at a large private West-coast university who indicated “a desire to work on unresolved interpersonal hurt.” Students in the treatment group completed six sessions of training on forgiveness. The intervention group showed a significant decrease in the angry reaction subscale in the post-test assessment ($ES = 0.5, p < .05$) compared to a no treatment group. Participants in the intervention also reduced the intensity of their hurt but did not change in their attitudes towards the transgressor.

Goldman and Wade (2012) completed a randomized-controlled trial with 112 college students who reported that they had been hurt in the past and struggled to overcome their negative experiences of it. These students were assigned to a group focused on promoting forgiveness, a group focused on reducing anger for past hurts, or a wait-list control. The forgiveness treatment resulted in greater reductions in hostility and psychological symptoms and more empathy for the offender than the alternative treatment and the waitlist.

The above studies demonstrate that a relationship does exist between the psychological variables of anger and forgiveness. Findings also suggest that the use of a forgiveness intervention can significantly decrease several negative emotions, including anger, in clients. Although not the primary focus of any of these studies, the researchers seem to have established that an intervention that promotes forgiveness also has the ability to lower levels of participant anger.

However, the vast majority of these studies were conducted with nonclinical populations—usually college students, and none of these studies were conducted with actual clients experiencing significant anger problems who are seeking treatment for these issues.

To date no study has been completed using a forgiveness intervention with treatment-seeking clients who are requesting services for problematic anger. There are no published articles or books demonstrating the use of such an approach. Therefore, there is a gap in the literature in both the study of anger management as well as the study of forgiveness. Thus, the purpose of this study is to explore the effectiveness of such a study which integrates these two approaches. This study will evaluate the efficacy of integrating forgiveness therapy into existing anger management treatment to determine if this new form of treatment provides an effective level of treatment in decreasing levels of state anger, increasing levels of anger control, and increasing levels of forgiveness among a population of actual clients seeking anger management services. This approach will be tested against an established treatment for anger. It is hypothesized that this new integrated approach will show improvements in anger reduction, anger control, and levels of forgiveness when compared to an existing treatment of anger.

CHAPTER THREE: METHODOLOGY

The current study purposed to conduct a Randomized Controlled Trial (RCT) to compare the effectiveness of integrating forgiveness therapy and anger management (Experimental Treatment) with anger treatment as usual (Comparison Treatment) in terms of reducing state anger, increasing anger control, and increasing forgiveness among individuals at an outpatient counseling center. Data were collected for 12 weeks for both of the study conditions between January 2014 and January 2015. Thus, this was a repeated measures study with multiple time points. This study was approved by the Institutional Review Board at the University of Denver (#562492-2) and followed all accepted ethical guidelines for research.

In alliance with recommendations from Kendall, Holmbeck, and Verduin (2004), the following criteria were followed in order for this study to be considered empirically supported:

- Randomized control design
- Two comparison groups (Experimental Treatment & Comparison Treatment)
- Inclusion and exclusion criteria
- Manualized treatment
- Treatment for a specific problem
- Outcome measures for tracking change in a problem

This study determined if the Experimental Treatment was superior to the Comparison Treatment by exploring the efficacy of integrating an intervention promoting forgiveness into existing anger management treatment. This study determined if this new intervention improved the ability to decrease anger symptoms, improved anger control, and increased forgiveness compared to treatment as usual. The research hypothesis was that the Experimental Treatment would be more effective than the Comparison Treatment at decreasing state anger, increasing anger control, and increasing forgiveness.

Due to the ethical need for immediate services in an outpatient population, no wait-list control group was utilized in this study. Although it would be valuable to compare the Experimental Treatment against no treatment to test for the change of variables due to the passage of time, it is possible that withholding services from clients who are experiencing significant anger problems and placing them on a waitlist could potentially cause harm to themselves or others. Therefore, all clients requesting services were given services as soon as possible.

Potential Benefits and Risks

The results of this study may contribute to the knowledge base concerning the effectiveness of anger management treatment. Data were obtained concerning the overall effectiveness of the Experimental Treatment compared to the Comparison Treatment. Furthermore, the information learned in this study may help increase understanding of the nature of anger, and help improve the treatment methods used in anger management. Participants in the study benefited from this study by learning skills for increasing anger control and tools that they can use to help manage their anger.

Risks of participation were minimal to participants, and research content did not put participants at undue risk for adverse reactions. Principal risks of this study were that participants could experience unpleasant feelings associated with survey questions concerning attitudes, relationships, and behaviors. If participants experienced psychological discomfort and would like to discuss these feelings, the principal investigator was available to refer them to appropriate resources for counseling and information.

Method

Participants

Group Participants

Unlike many published studies on anger that use college students or volunteers from a non-clinical population (Deffenbacher, Dahlen, et al. ,2000; Golman & Wade, 2012; Johnson & Connelly, 2014; Trew & Alden, 2009), upon the recommendations of Olatunji and Lohr (2004), participants in the present study were treatment-seeking individuals in the clinical population. Saini (2009) noted that there is an overrepresentation of undergraduate student volunteers in the current literature on anger, thereby limiting the generalizability of the findings to other populations (Saini, 2009). By using actual patients in a clinical setting, both the validity and generalizability of the study outcomes are improved (Lambert & Ogles, 2004).

Participants in this study were treatment-seeking patients at an outpatient counseling center in Denver, Colorado who explicitly requested services for anger management counseling. Participants were seeking treatment voluntarily, and not ordered by the court or any other organization.

Subject Recruitment

All persons who contacted a local outpatient counseling center and requested anger management treatment were invited to participate in this study. These individuals were offered an initial 30 minute face-to-face consultation with a group facilitator to confirm their willingness to participate, answer questions, inform them about the study, and screen participants who met exclusion criteria. At this time participants were given the informed consent form and invited to participate.

Inclusion and Exclusion Criteria

To participate in the study, participants must have specifically noted that they were currently experiencing several of the negative symptoms of problematic anger, including: emotional volatility; anger that is negatively impacting occupational and relational functioning; negative physical, social and emotional consequences due to anger; and a reported low ability to control these anger symptoms. Some participants were experiencing anger that was leading to physically violent situations, destruction of property, or verbally and emotionally abusive situations.

Inclusion criteria for both study conditions included: (1) individuals voluntarily interested in learning skills that might help them control their anger; (2) consent to participate in the study; (3) between the ages of 18-75.

Exclusion criteria: (1) cognitive impairments and developmental delays; (2) current suicidal risk; (3) currently experiencing actively psychotic symptoms; (4) self-report substance-abuse problems at the initial screening; (5) currently court ordered to receive domestic violence treatment.

Random Assignment

During the initial 30-minute consultation, participants were randomly assigned to receive one of the two conditions: (a) Experimental Treatment or (b) Comparison Treatment, which is Treatment as Usual. Sequential randomization was used, with Participant #1 placed in the Experimental Treatment, Participant #2 places in the Comparison Treatment, #3 placed in the Experimental Treatment, and so on. Participants were blind to their treatment condition throughout the duration of treatment. Random assignment of participants to the treatment conditions was utilized to help aid in the equivalency of groups in terms of both demographics and treatment severity of participants. Because of random assignment, it was expectedated that the two groups would be roughly equivalent in outcome variables and demographics at baseline.

Treatment groups for both conditions consisted of 6-8 members and were open groups, allowing new members to join at any point in time. Because of this, at any given week some participants were on Week 1 of the curriculum while other group members were on Week 2, 3, 4, and so on. In this format, group members all started and finished treatment at different points in time. This arrangement helped to minimize the confounding variable of group cohesion, as the groups were made up of different individuals in every session, with new members joining every week and other members completing treatment. Because every session had different members, this limited the violation of independent observations, as is often the case with studies of group therapy.

Group Facilitators

Facilitators (n=4) were male Licensed Professional Counselors with Master's Degrees in Counseling. The facilitators ranged in age from 27 to 45, with three identifying as White and one identifying as Latino. All facilitators had at least two years of experience in facilitating Anger Management groups, completed a course in group counseling, and have provided a minimum of two years of individual counseling.

Each group had two facilitators assigned to a particular treatment condition (either the Experimental Treatment or Comparison Treatment). Facilitators were explicitly instructed not to talk with each other about any aspect of the study. Both facilitators and group participants were blind to the treatment conditions, making this a double-blind study. The Principal Investigator considered rotating counselors across the different conditions, but ruled out such an approach to promote efficiency in the study, fidelity to the treatment conditions, and to maintain the double-blind aspect of this study. The study was specifically designed so that both treatment conditions were led by facilitators of equal education, training, experience, and gender to minimize differences in group facilitators.

Furthermore, none of the group facilitators were involved with any aspects of the research. They did not participate in developing the study design or materials, were not involved with IRB approval, and were not involved in the analysis or write-up of this study. Essentially, these facilitators were contract therapists in a group private practice.

Group Facilitators in the Experimental Treatment

The two group facilitators in the Experimental Treatment group followed manualized treatment procedures to guide delivery of the group interventions and increase fidelity to the model. Before leading the Experimental Treatment, the group facilitators for this condition received three hours of specialized training and instruction from the Principal Investigator in how to conduct the interventions from the manuals, explicitly avoiding any discussion of the research design or hypotheses. Group facilitators were supervised during the interventions by this author to provide support and consultation to assure competency and fidelity. This author was also be available for questions and clarification throughout the process as needed. Additionally, this author attended three of the group sessions unannounced and at random to ensure treatment adherence. In order to maintain the purity of the research and decrease confounding variables, this author did not provide any direct service or lead any groups during this study.

Group facilitators were told that the study would help measure the effectiveness of anger management treatment, but were not told of the comparison component of the study or the unique characteristics of their group. Group facilitators were blind to the treatment conditions and did not have knowledge that their group would be compared to another group in this study.

Group Facilitators in Comparison Treatment

Group facilitators for the Comparison Group condition continued administering the Anger Treatment as Usual group as they had previously for the last several months. Facilitators in the Comparison Group were instructed to continue conducting treatment

exactly as they had been without making any changes, with special attention not to introduce any new interventions during the course of this study.

Group facilitators were told that the study would help measure the effectiveness of anger management treatment, but were not told of the comparison component of the study. Thus, group facilitators were blind to the treatment conditions and did not have knowledge that their group would be compared to another group in this study. At the conclusion of the study, all four group facilitators were debriefed on the results of the study.

Measures

Instruments

DiGiuseppe and Tafrate (2003) noted that one of the most critical issues in efficacy studies of the psychosocial treatment of anger is the selection of outcome measures that accurately assess clinical dimensions of anger. Reliable and valid measures are integral for the proper assessment of this study. With this in mind, the following instruments were chosen for inclusion in this study.

Demographic Survey

The demographic survey measured age, gender, and ethnicity for all participants. The demographic survey allowed further analysis of the results by these characteristics.

The State-Trait Anger Expression Inventory-II (STAXI-II)

Two subscales of the State-Trait Anger Expression Inventory-II were used to measure individuals' anger (Spielberger, 1999). The full instrument is a 57-item self-

report inventory that was developed to measure the experience, expression, and control of anger in individuals 16 years of age and older using 4-point rating scale items.

The two subscales from this instrument that were used in this study are the State Anger subscale and an abbreviated version of the Anger Control subscale. The State Anger subscale consists of 15 items that measure the intensity of angry feelings over the week prior to the time of test administration, with higher scores indicating higher levels of anger. The Anger Control subscale contains 16 items and measures the perceived level of control each participant has over his or her anger, and the perceived ability to control angry emotions and actions, with higher scores indicating higher levels of perceived ability to control anger. Therefore, an increase in Anger Control scores over time would mean a participant believes that over time he or she is better able to control angry feelings.

Spielberger's (1999) research using normal adult and psychiatric populations yielded alpha coefficient measures of internal consistency that were uniformly high across all scales and subscales (.84 or higher, median $r = .88$). It should be noted that the STAXI-II has not shown good test-retest reliability. In one study, retest two weeks later showed a nonsignificant correlation, $r(30) = 0.45$, $p = .09$ (Wongtongkam et al., 2013). Authors suggest that daily life circumstances may influence angry feelings leading to different results in the second test.

Trait Forgivingness Scale (TFS)

The TFS (Berry & Worthington, 2001) comprises 10 items aimed at assessing a respondent's self-appraisal of his or her willingness to forgive interpersonal

transgressions. Self-statements are rated from 1 = “strongly disagree” to 5 = “strongly agree.” For example, the scale includes the item: “If someone treats me badly, I treat him or her the same.” Higher scores suggest higher levels of forgiveness, with some items (like the example above) reverse scored.

The TFS demonstrates adequate internal consistency ($\alpha = .74 - .80$), and evidence of validity has been obtained through correlations with other measures of forgiveness. For example, the Pearson correlation between the self-rating on the TFS and the Transgression Narrative Test of Forgiveness (TNTF; Berry et al., 2001), which presumably measures the same construct, was moderate and statistically significant, $r(49) = .55, p < .001$. (Berry et al., 2005). An 8-week test-retest reliability of this scale was found to be .78 (Berry et al., 2005).

Design

The experimental design for this study was 2 x (12) [Condition x (Time)] randomized design with repeated measures. The two conditions were (a) Experimental Treatment and (b) Comparison Treatment. Assessments for State Anger, Anger Control, and Forgiveness were conducted at the beginning of every session for the 12 consecutive weeks of treatment. Thus, this was a repeated measures longitudinal study with multiple time points.

Group Interventions

Participants in both the Experimental Treatment Group and the Comparison Group received 12 sessions of group therapy, meeting one time per week for 12 consecutive weeks for a 90 minute group intervention.

Experimental Treatment

Group interventions in the Experimental Treatment used manualized treatment with the workbook *Take Control of Your Anger* (Ballard, 2011), an integrated treatment approach combining traditional anger management treatment methods with forgiveness therapy. Anger Management components of this curriculum include: identifying triggers, learning breathing techniques, practicing progressive muscle relaxation, and using cognitive therapy to refute irrational thoughts that are causing anger. The Forgiveness Therapy component of the experimental treatment is based on Robert Enright's Forgiveness Therapy (2010) and Everett Worthington's REACH model of forgiveness (2003). The Forgiveness Therapy portion of the curriculum includes: defining forgiveness, identifying grudges and resentments from past hurts, learning new skills to forgive and let go of these resentments, committing to forgive, making peace with the past, moving on from past hurts, and experiencing discovery and release from an emotional prison. Sessions will focus on recognizing hurts, encouraging empathy for the offender, and consciously deciding to release resentment for those hurts. All sessions include written and oral exercises so that participants can process and restructure emotional experiences.

Forgiveness Therapy is an empirically validated evidence-based treatment (EBT) (Enright & Fitzgibbons, 2010). Since 1990 over one thousand psychological studies of forgiveness have been published (Worthington, 2005), and scientific research in forgiveness has increased exponentially. Social scientists in a variety of fields have

discovered the various benefits of using forgiveness as an intervention with clients and researchers have repeatedly shown the effectiveness of using interventions promoting forgiveness.

Forgiveness interventions have been empirically proven to increase levels of forgiveness, decrease negative symptoms, and increase positive symptoms in a variety of different contexts. Interventions promoting forgiveness have been proven effective for clients who have struggled with a variety of issues, including marital and family issues, depressive disorders, anxiety disorders, and even patients with coronary heart disease (Enright & Fitzgibbons, 2010; Waltman, et. al, 2009).

Increases in forgiveness have been shown to bring about the reduction of negative thoughts, emotions and behaviors that include pain, hurt, anger, and bitterness. Additionally, higher levels of forgiveness have been shown to increase positive thoughts, feelings and behaviors toward the offender, including compassion, understanding, and mercy (Enright & Fitzgibbons, 2010).

To date, more than 500 clients have completed outpatient treatment using the Experimental Treatment. An unpublished pilot study (Ballard, 2013) on the efficacy of the Experimental Treatment yielded positive results, with all 42 participants in the study showing significant improvement in Anger Control over the course of treatment according to the Anger Control subscale (Spielberger, 1999). During this study, the first session average participant score (N = 42) in Anger Control (on a scale of 0 - 46) was 3.33. At session 3 the average participant score increased to 8.33, and this score further increased to 14.06 by session 5 and 18.39 in session 7. At the end of treatment in session

12, the average participant score in anger control was 27.80, an average gain of 24.47 points on a 46 point scale over the course of 12 weeks of treatment. That pilot study formed the basis of this study. Data from the pilot study were not included in the data from this study.

Comparison Treatment

Participants in the Anger Treatment as Usual group received 12 weeks of anger management group treatment as currently offered at the counseling center. The counseling center used the curriculum *The Anger Control Workbook* (McKay, 2001), during the duration of this study. This curriculum teaches anger control techniques such as breathing techniques and cognitive restructuring. This group also allows group members to discuss situations when they felt angry and think through better ways to deal with these situations. The Anger Treatment as Usual group pays particular attention to sharing and processing anger or angry experiences and discussing new coping skills to use to improve angry responses. The Anger Treatment as Usual group did not include any mention of forgiveness or any of the content that is covered in Forgiveness Therapy.

Survey Administration and Collection

Participants in both groups were assessed at the beginning of each session of treatment, completing a short two-page survey during the length of treatment. The assessment asked questions regarding client experiences with anger and how they dealt with these experiences. Completion of the survey took 5-7 minutes per administration.

Group facilitators of both the Experimental Treatment and the Comparison Groups handed out the assessments to the participants at the beginning of each session, collected

the assessments, and placed them in an envelope without looking at them. This sealed envelope was then be placed in a locked drawer. The Principal Investigator then collected the surveys from the counseling center. No one viewed the contents of the surveys at any point in time besides the Principal Investigator.

Group facilitators did not score the assessments and were not given information as to the meaning of the instruments or the scores until after completing the study. Group facilitators were also not be given the results of the assessments throughout the process of treatment.

Participants used an ID number during the course of study, so their responses were completely anonymous. Responses were kept separate from information that could identify participants. No names were linked to the data. Access to all data was limited to the Principal Investigator. The Principal Investigator was the only person with access to individual data, and any reports generated as a result of this study only used group averages and paraphrased wording. Data were collected for research purposes only.

All research interviewers, interventionists, and staff were thoroughly versed in ethical issues associated with this research, with specific attention to confidentiality. The Principal Investigator trained project staff in ethical issues associated with the project. All group facilitators and staff signed a formal oath of confidentiality as part of their agreement to participate.

Procedure

Statistical Analyses

Outcomes for subjects randomly assigned to receive the experimental treatment were compared to those of subjects assigned to receive treatment as usual. Comparing with treatment as usual is particularly well-suited to answer the practical question of whether introducing the new treatment could improve outcomes over and above the current state of practice. Additionally, treatment as usual helps to equalize groups on the expectation of benefit since both groups receive an intervention.

Descriptive Statistics

Internal consistency reliabilities of all scales were estimated using Cronbach's alpha. Means, standard deviations, and alpha levels for scales measuring State Anger, Anger Control, and Forgiveness at all time points were calculated for each condition and for the entire sample.

Correlations of the scale scores for State Anger, Anger Control, and Forgiveness at different time points were calculated and reported. A multiple regression analysis was used to control for each of the outcome variables (State Anger, Anger Control, and Forgiveness) to determine equivalency of the various groups at baseline.

Method Checks

To ensure there are no baseline differences in the dependent variables between the groups, a one-way (Experimental Treatment, Anger Treatment as Usual) ANOVA was performed, with Forgiveness, State Anger, and Anger Control in the first session as dependent variables.

Effects of Participation on State Anger

The effectiveness of the treatment groups in reducing state anger was explored with a 2 X (12) (Condition: Experimental Treatment, Treatment as Usual X (Time)) analysis of variance (ANOVA) with repeated measures. The repeated measures were the scores on the State Anger measures at the different time points. Analyses determined main effects and variance accounted for. Effects were determined for both conditions and for time, and for the interaction of condition and time. It was anticipated that there would be change over time in both groups, with a greater amount of change in the Experimental Group as compared to the Treatment as Usual group. To control for Type I error in conducting the independent ANOVAs, the Bonferroni adjustment was used.

Effects of Participation on Anger Control

The effectiveness of the treatment groups in increasing anger control was explored with a 2 X (12) (Condition: Experimental Treatment, Treatment as Usual X (Time)) analysis of variance (ANOVA) with repeated measures. The repeated measures were the scores on the Anger Control measures at the different time points. Analyses determined main effects and variance accounted for. Effects were determined for both conditions and for time, and for the interaction of condition and time. It was anticipated that there would be change over time in both groups, with a greater amount of change in the Experimental Group as compared to the Treatment as Usual group. To control for Type I error in conducting the independent ANOVAs, the Bonferroni adjustment was used.

Effects of Participation on Forgiveness

The effectiveness of the treatment in promoting forgiveness was explored with a 2 X (12) (Condition: Experimental Treatment, Treatment as Usual X (Time)) analysis of variance (ANOVA) with repeated measures. The repeated measures were scores on the TFS at different time points. Analyses determined main effects, interactions, and variance accounted for. Effects were determined for the two conditions and for time, and for the interaction of condition and time. It was anticipated that there would be change over time in the experimental group, but not in the comparison group, because the forgiveness component is not addressed in this group. To control for Type I error in conducting the independent ANOVAs, the Bonferroni adjustment was used.

Forgiveness as a Predictor

A simple linear regression was performed to determine if the baseline forgiveness scores predicted change in State Anger and Anger Control. Additionally, a simple linear regression was performed to determine if end of treatment forgiveness scores predicted change in State Anger and Anger Control. It is hypothesized that forgiveness scores would predict the changes in both state anger and anger control over the course of treatment.

Hypotheses

The research hypothesis is that the experimental treatment of integrating forgiveness therapy and anger management will (1) decrease levels of state anger, (2) increase levels of anger control, and (3) increase levels of forgiveness more effectively than the comparison treatment of anger treatment as usual. Specifically, the following

hypotheses were explored:

- 1) There is a significant main effect for time in both the Experimental Treatment and the Comparison Treatment on all three outcome variables: State Anger, Anger Control, and Forgiveness.
- 2) A greater amount of change takes place in the Experimental Treatment compared to the Comparison Treatment, and so a significant interaction will take place between group and time for all three outcome variables: State Anger, Anger Control, and Forgiveness.
- 3) The Experimental Treatment has higher effect sizes and gain scores than the Comparison Treatment for all three outcome variables: State Anger, Anger Control, and Forgiveness.
- 4) Statistically significant correlational relationships are found between State Anger and Forgiveness (negative), Anger Control and Forgiveness (positive), and State Anger and Anger Control (negative).
- 5) Forgiveness scores predict the changes in both state anger and anger control over the course of treatment.

CHAPTER FOUR: RESULTS

This study tested the research hypotheses that the experimental treatment of integrating forgiveness therapy and anger management would (1) decrease levels of state anger, (2) increase levels of anger control, and (3) increase levels of forgiveness more effectively than the comparison treatment of anger treatment as usual. Prior to presentation of results pertinent to the research hypotheses, characteristics of participants are summarized, as are variable relationships.

Description of Participants

One hundred eighty-seven individuals (85% male, 15% female) participated in this study over 12 weeks of treatment between January 1 and December 15, 2014. The average participant age was 39.02 (SD=12.6), with an ethnic composition of 65.2% White, 10.2% Black, 10.7% Latino, 2.1% Asian, 8% Other, and 3.7% Unidentified (Table 1).

The individuals were divided into two groups: the experimental group and the comparison group. The Experimental Group (N=109; 89% male, 11% female) completed 488 surveys. The average participant age was 39.84, with an ethnic composition of 78% White, 2.8% Black, 6.3% Latino, 3.6% Asian, 2.8% Other, and 6.4% Unidentified. The Comparison Group (N=78; 78% male, 22% female) completed 334 surveys. The average participant age was 40.27, with an ethnic composition of 47% White, 23% Black, 11.5% Latino, 0% Asian, 14% Other, and 3.8% Unidentified.

Although participants were randomly assigned to the two groups, the Experimental Group had more participants than the Comparison Group. This was due largely to missing data from the Comparison Group. The Experimental Group was more thorough and consistent in collecting and submitting surveys.

Table 1

Description of Participants

	TOTAL		EXPERIMENTAL GROUP		COMPARISON GROUP	
	N	%	N	%	N	%
Total	187		109		78	
Age	39.02		39.84		40.27	
Male	159	85	97	89	61	78
Female	28	15	12	11	17	22
White	122	65.2	85	78	37	47
Black	21	10.2	3	2.8	18	23
Latino	16	10.7	7	6.3	9	11.5
Asian	4	2.1	4	3.6	0	0
Other	14	8.0	3	2.8	11	14
Unidentified	10	3.7	7	6.4	3	3.8

Variable Relationships

A simple bivariate correlation was computed between all of the outcome scores (pooled across both of the groups) at the beginning (week 1) and end (week 12) of treatment, and results are reported in Table 2. It was hypothesized that statistically significant correlations would be found between State Anger and Forgiveness (negative), Anger Control and Forgiveness (positive), and State Anger and Anger Control (negative). As shown in Table 2, all correlations are significant at both time points, the beginning and end of treatment. State Anger and Anger Control had a significant relationship at Week 1 ($r = -.60, p < .001$) and Week 12 ($r = -.61, p < .001$), State Anger and

Forgiveness had a significant relationship in Week 1 ($r = -.55, p < .001$) and Week 12 ($r = -.41, p < .001$), and Anger Control had a significant relationship with Forgiveness at Week 1 ($r = .64, p < .001$) and Week 12 ($r = .64, p < .001$). As hypothesized, a statistically significant relationship existed between level of forgiveness and state anger, as well as level of forgiveness and anger control. Higher scores on forgiveness correlate with higher scores on anger control and lower scores on state anger.

Table 2

Correlations between Dependent Variables at Weeks 1 and 12

Week 1	Measure	1	2	3
1.	State Anger	--		
2.	Anger Control	-.60 (<.001)	--	
3.	Forgiveness	-.55 (<.001)	.64 (<.001)	--
Week 12				
1.	State Anger	-		
2.	Anger Control	-.61 (<.001)	-	
3.	Forgiveness	-.41 (<.001)	.64 (<.001)	-

State Anger

A preliminary investigation of the data revealed the means and descriptive statistics on State Anger for each of the groups (Experimental Group and Control Group) summarized in Table 3.

From Table 3 it can be seen that participants in the Experimental Group viewed themselves as experiencing higher amounts of anger on average at the beginning of treatment. To assess baseline differences in the dependent variable, State Anger, between

the groups, an independent samples t-test was performed (Table 4). A statistically significant difference was found between groups at baseline, with the Experimental Group having significantly higher scores on State Anger than the Comparison Group, $t = 5.69, p < .001$ (Table 4). This result indicates that the Experimental Group participants viewed themselves as experiencing more anger in the first week than did the Comparison Group. Said another way, the Experimental Group appeared to be experiencing more problems with anger than the Comparison Group at baseline. A post-hoc power analysis determined that there was 99.9% power in this study based on sample size of the groups and the mean ending point score and standard deviation in state anger.

Table 3

Distribution Description for State Anger by Group by Time

	Experimental Group		Comparison Group	
N	109		78	
	Mean (SD)	SK (KU)	Mean (SD)	SK (KU)
T1	37.14 (10.37)	.17 (.01)	29.44 (9.67)	1.16 (1.61)
T2	31.35 (8.56)	.36 (-.01)	24.34 (8.62)	1.83 (3.05)
T3	29.36 (9.37)	1.30 (1.53)	21.06 (6.39)	2.54 (7.48)
T4	26.27 (7.89)	.73 (.209)	23.39 (9.44)	2.71 (8.07)
T5	24.65 (4.72)	.39 (.228)	22.79 (7.37)	2.29 (8.65)
T6	26.27 (6.76)	1.99 (7.18)	25.78 (9.51)	1.56 (2.84)
T7	24.49 (6.52)	.65 (-.47)	24.28 (8.58)	1.74 (4.31)
T8	26.45 (6.58)	1.44 (5.77)	24.65 (9.10)	1.85 (4.35)
T9	24.27 (6.92)	.57 (-.74)	26.34 (8.96)	1.12 (2.27)
T10	21.85 (4.65)	1.85 (6.84)	19.57 (6.04)	2.44 (6.45)
T11	20.90 (3.56)	.69 (.61)	17.67 (3.36)	4.78 (29.86)
T12	19.72 (2.54)	1.06 (4.55)	19.49 (3.98)	2.03 (11.47)

Table 4

t-test Results Comparing Experimental and Comparison Group on State Anger at Baseline

Group	N	Mean	SD	t	df	p
Experimental	109	37.50	10.27	5.69	178	< .001
Comparison	78	28.83	9.60			

The effectiveness of the treatment groups in reducing state anger was explored with a 2 X (12) (Condition: Experimental Treatment, Comparison Treatment X (Time)) analysis of variance (ANOVA) with repeated measures. The data are scores on State Anger with each participant assessed at 12 time points. To account for missing data, the near neighbor method was used, imputing a mean of nearby points to complete missing cells. The Comparison Group had more missing data than the Experimental Group, although both groups had a substantial number of cells missing, approximately 25% of the total sample. The main effects of group, time, and the interaction between group and time (i.e., does change over time differ for the Experimental or the Comparison Group) were tested. It was hypothesized that there would be change over time in both groups, and so a main effect of time, with a greater amount of change in the Experimental Group as compared to the Comparison Group, and so a significant interaction.

Although participants participated in group therapy, independence may be assumed because of the nature of the group. Groups in this study were open groups, meaning the membership and attendance of each group changed every week, and each individual participated in the group at his or her own pace and schedule. Therefore, the independence of observations was assumed.

Univariate outliers were reviewed on the dependent variable State Anger. When screening for outliers, very few outliers were found in the distribution, so these cases were not removed from the data set. After screening for outliers, normality of the data was investigated using skewness of the variable at each time points. As seen in Table 3, the assumption of normality was met in the Experimental Group in Weeks 1, 2, 4, 5, 7, 9 and 11. The assumption for normality was not met in the Comparison Group. However, despite the violation at some time points, ANOVA is robust to violations of normality, especially when sample sizes are large enough and violations are not severe and so the analysis was continued. However, it should be noted that for State Anger the Comparison Group did have a number of severe violations.

The assumption of homogeneity of variance was tested and met in Weeks 1, 2, 4, 7, 9, and 10 and not met in Weeks 3, 5, 6, 8, 11, and 12 (Table 5). However, ANOVA is robust with respect to violation of homogeneity of variance, especially with a balanced design.

One of the core underlying assumptions in the repeated measures ANOVA procedure is that of sphericity. Sphericity exists when the variances of all possible difference scores are equal within sampling variation. Given the nature of longitudinal data it was highly unlikely that this assumption would hold. Nonetheless, if sphericity is observed the repeated measures ANOVA procedure provides a powerful test.

In order to test sphericity the Greenhouse-Geisser ϵ was inspected. The value reflects a relatively minor violation of sphericity. However, using an uncorrected RM-ANOVA F-test would result in a likely inflation of Type I Errors, rejecting the null

hypothesis while it was true more often than the Type I error rate stated (.05). Therefore, the Greenhouse-Geisser correction was used. This does not affect the computed F-statistic, but instead raises the critical F value needed to reject the null hypothesis. For these data the Greenhouse-Geisser ϵ was .62; a typical recommendation for the minimum ϵ is .70.

Using the Greenhouse-Geisser correction, statistically significant results were found for the main effects of time, $F(6, 1101.66) = 59.78, p < .001$, and group, $F(1, 185) = 21.37, p < .001$, and for the interaction between group and time, $F(6, 1101.66) = 10.962, p < .001$. Figure 1 displays the interaction between group and time.

Table 5

Levene's Test of Equality of Error Variances for State Anger

	F	df1	df2	p
MEAN(StateAnger1,2)	.436	1	162	.510
MEAN(SA2,2)	1.250	1	162	.265
MEAN(SA3,2)	11.073	1	162	.001
MEAN(SA4,2)	.395	1	162	.531
MEAN(SA5,2)	6.974	1	162	.009
MEAN(SA6,2)	7.663	1	162	.006
MEAN(SA7,2)	1.068	1	162	.303
MEAN(SA8,2)	4.737	1	162	.031
MEAN(SA9,2)	2.459	1	162	.119
MEAN(SA10,2)	1.936	1	162	.166
MEAN(SA11,2)	7.434	1	162	.007
MEAN(SA12,2)	18.273	1	162	.000

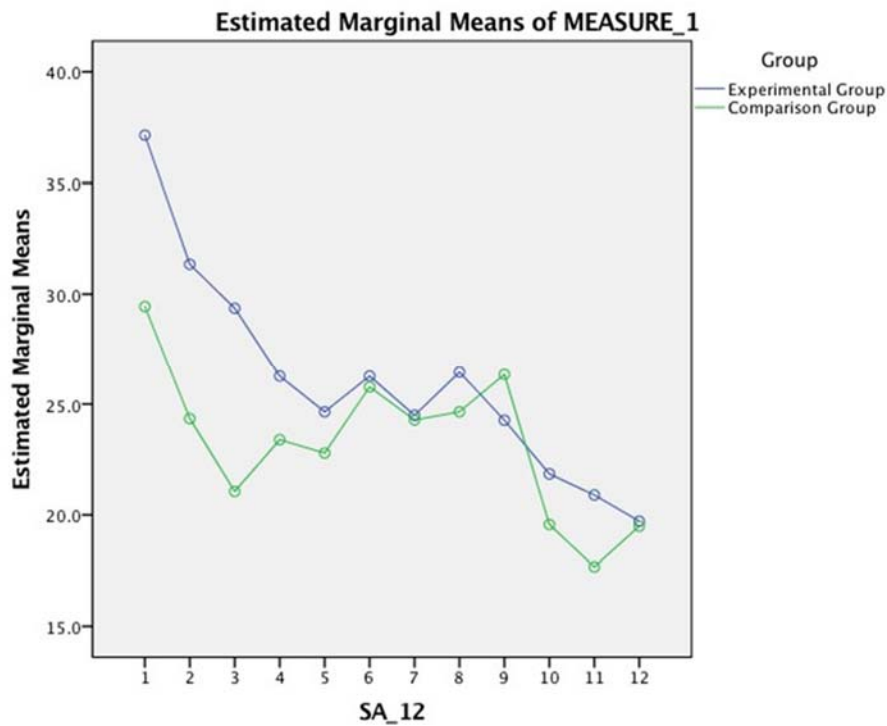
Table 6

Summary Table of Repeated Measures ANOVA of State Anger by Group by Time

Source		Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Time	Greenhouse-Geisser	25222.21	6.80	3708.96	59.78	<.001	.270
Time * Group	Greenhouse-Geisser	4625.23	6.80	680.14	10.96	<.001	.063
Error		68354.22	1101.66	62.05			
Group	Greenhouse-Geisser	3182.98	1	3182.98	21.37	<.001	.104
Error		27554.60	185	148.94			

Figure 1

Interaction between Group and Time for State Anger



As demonstrated in Table 6, the Time X Group interaction was significant, so simple effects were analyzed. In order to investigate the mean difference at each time point, individual *t*-tests were conducted (Table 7). To prevent inflation of Type I error at this level of the analysis, a Bonferroni correction for multiple comparisons was applied with a critical value of 0.004. Table 7 summarizes the significant findings for the group by time comparisons. The largest mean differences were observed between the Experimental and Comparison group in Week 3, and the smallest significant difference was observed in Week 9.

Table 7

***t*-test Results Comparing Experimental and Comparison Group on State Anger at Each Time Point**

	Experimental Group		Comparison Group			
	M	SD	M	SD	t	p
T1	37.50	10.27	28.83	9.60	5.77	<.001***
T2	31.40	8.34	24.18	8.36	5.64	<.001***
T3	30.33	9.80	20.84	6.23	7.84	<.001***
T4	26.27	7.62	23.30	9.41	2.19	.03
T5	24.85	5.08	23.24	8.56	1.39	.167
T6	27.00	6.83	25.07	9.32	1.52	.131
T7	25.61	7.01	23.62	8.42	1.68	.096
T8	26.98	6.82	24.04	8.86	2.41	.017
T9	24.94	6.96	25.59	8.84	.54	.594
T10	22.13	4.58	20.83	7.07	1.41	.161
T11	20.99	3.46	18.45	5.72	3.41	.001***
T12	19.89	2.86	19.31	4.01	1.08	.283

Data indicate that statistically significant differences between the groups were present in weeks 1, 2, 3 and 11, with the Experimental Group recording higher levels of state anger at each point. It appears that the Experimental Group started with higher levels of state anger, but through treatment this level decreased to where there was no significant difference between the groups, with the exception of Time 11.

To further evaluate the effectiveness of the two treatment conditions on decreasing state anger, Cohen's d effect sizes were calculated by using an effect size calculator, measuring the difference in scores in state anger from Week 1 to Week 12. The effect size for the Experimental Group in decreasing state anger was $d = 2.34$, and the effect size for the Comparison Group in decreasing state anger was $d = 1.01$. This indicates that both treatments were effective in decreasing levels of state anger to a much higher degree than most current published studies in the literature (see Chapter 2). Additionally, the Experimental Treatment demonstrated superiority in decreasing state anger compared to the Comparison Treatment.

Anger Control

A preliminary investigation of the data revealed the means on Anger Control for each of the groups (Experimental Group and Control Group) summarized in Table 8.

From Table 8 it can be seen that participants in the Experimental Group viewed themselves as experiencing lower amounts of anger control on average at the beginning of treatment. To assess baseline differences in the dependent variable, Anger Control, between the groups, an independent samples t -test was performed. A statistically significant difference was found between groups at baseline, with the Experimental Group

having significantly lower scores on Anger Control than the Comparison Group, $t = 7.01$, $p < .001$ (Table 9). This result indicates that the Experimental Group participants perceived themselves as having less ability to control their anger in the first week than did the Comparison Group. In other words, the Experimental Group appeared to have less anger control on average than the Comparison Group at baseline.

Table 8

Distribution Description for Anger Control by Group by Time

	Experimental Group		Comparison Group	
N	109		78	
	Mean (SD)	SK (KU)	Mean (SD)	SK (KU)
T1	38.20 (7.25)	.379 (1.63)	45.30 (6.48)	-.33 (.52)
T2	43.39 (6.44)	-.588 (3.81)	49.12 (5.52)	-.24 (3.81)
T3	43.64 (6.72)	.132 (1.49)	49.82 (5.95)	-.38 (1.14)
T4	45.52 (6.10)	.198 (1.94)	51.06 (5.74)	-.52 (.35)
T5	48.62 (5.77)	-.039 (.83)	51.73 (5.84)	-.64 (1.26)
T6	47.10 (6.14)	-.526 (2.63)	50.60 (6.08)	-1.55 (6.24)
T7	49.74 (5.56)	-.318 (1.79)	53.50 (5.89)	-1.24 (2.32)
T8	50.09 (5.87)	-.703 (3.58)	51.62 (4.46)	-.06 (1.86)
T9	48.39 (5.99)	.329 (.35)	51.45 (5.13)	-.71 (1.94)
T10	50.04 (4.26)	.473 (1.32)	50.37 (3.83)	.09 (1.64)
T11	52.98 (5.85)	-.549 (.26)	52.98 (4.53)	.03 (.63)
T12	52.98 (4.73)	-.431 (2.48)	53.13 (3.65)	-1.16 (8.77)

Table 9

t-test Results Comparing Experimental and Comparison Group on Anger Control at Baseline

Group	N	Mean	SD	t	df	p
Experimental	108	38.20	7.25	-7.01	178	< .001
Comparison	72	45.30	6.48			

The effectiveness of the treatment groups in increasing anger control was explored with a 2 X (12) (Condition: Experimental Treatment, Comparison Treatment X (Time)) analysis of variance (ANOVA) with repeated measures. The data were scores on Anger Control with each participant assessed at 12 time points. To account for missing data, the near neighbor method was used, imputing a mean of nearby points to complete missing cells. The Comparison Group had more missing data than the Experimental Group, although both groups had a substantial number of cells missing. The main effects of group, time, and the interaction between group and time (i.e., does change over time differ for the Experimental or the Comparison Group) were tested. It was hypothesized that there would be change over time in both groups, and so a main effect of time, with a greater amount of change in the Experimental Group as compared to the Comparison Group, and so a significant interaction.

Although participants participated in group therapy, independence may be assumed because of the nature of the group. Groups in this study were open groups, meaning the membership and attendance of each group changed every week, and each individual participated in the group at his or her own pace and schedule. Therefore, the independence of observations was assumed.

Univariate outliers were reviewed on the dependent variable Anger Control. When screening for outliers, very few outliers were found in the distribution, so these cases were not removed from the data set. After screening for outliers, normality of the data was investigated using skewness of the variable at each time points. As seen in Table 8, the assumption of normality was met in the Experimental Group in all 12 weeks, and

the assumption for normality was met in the Comparison Group in Weeks 1, 2, 3, 4, 5, 8, 9, 10, and 11. However, despite the violation at some time points, ANOVA is robust to violations of normality, especially when sample sizes are large enough and violations are not severe, and so the analysis was continued.

The assumption of homogeneity of variance was tested and met in Weeks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 12 and not met in Week 11. However, ANOVA is robust with respect to violation of homogeneity of variance, especially with a balanced design.

In order to test sphericity the Greenhouse-Geisser ϵ was inspected and sphericity was observed. For these data the Greenhouse-Geisser ϵ was .75; a typical recommendation for the minimum ϵ is .70.

Assuming sphericity, statistically significant results were found for the main effects of time, $F(11, 23.50) = 68.53, p < .001$, and group, $F(1, 185) = 23.50, p < .001$, and for the interaction between group and time, $F(11, 242.13) = 10.30, p < .001$). Figure 2 displays the interaction between group and time.

As demonstrated by Figure 2, the Time X Group interaction was significant, so simple effects were analyzed. In order to investigate the mean difference at each time point, individual t -tests were conducted. To prevent inflation of Type I error at this level of the analysis, a Bonferroni correction for multiple comparisons was applied with a critical value of 0.004. Table 12 summarizes the significant findings for the group by time comparisons. The largest mean differences were observed between the Experimental and Comparison group in Week 1, and the smallest significant difference was observed in Week 6.

Table 10***Levene's Test of Equality of Error Variances for Anger Control***

	F	df1	df2	p
MEAN(AngerControl1,2)	.362	1	162	.548
MEAN(AC2,2)	.368	1	162	.545
MEAN(AC3,2)	.253	1	162	.615
MEAN(AC4,2)	.082	1	162	.776
MEAN(AC5,2)	.186	1	162	.667
MEAN(AC6,2)	.718	1	162	.398
MEAN(AC7,2)	.013	1	162	.908
MEAN(AC8,2)	3.212	1	162	.075
MEAN(AC9,2)	1.334	1	162	.250
MEAN(AC10,2)	.456	1	162	.500
MEAN(AC11,2)	5.222	1	162	.024
MEAN(AC12,2)	3.015	1	162	.084

Table 11***Summary Table of Repeated Measures ANOVA of Anger Control by Group by Time***

Source		Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Time	Sphericity Assumed	17715.38	11	1610.49	68.53	<.001	.297
Time *	Sphericity Assumed	2663.42	11	242.13	10.30	<.001	.060
Error		41880.92	1782	23.50			
Group	Sphericity Assumed	5264.043	1	5264.043	40.056	<.001	.198
Error		21289.729	162	131.418			

Figure 2

Interaction between Group and Time for Anger Control

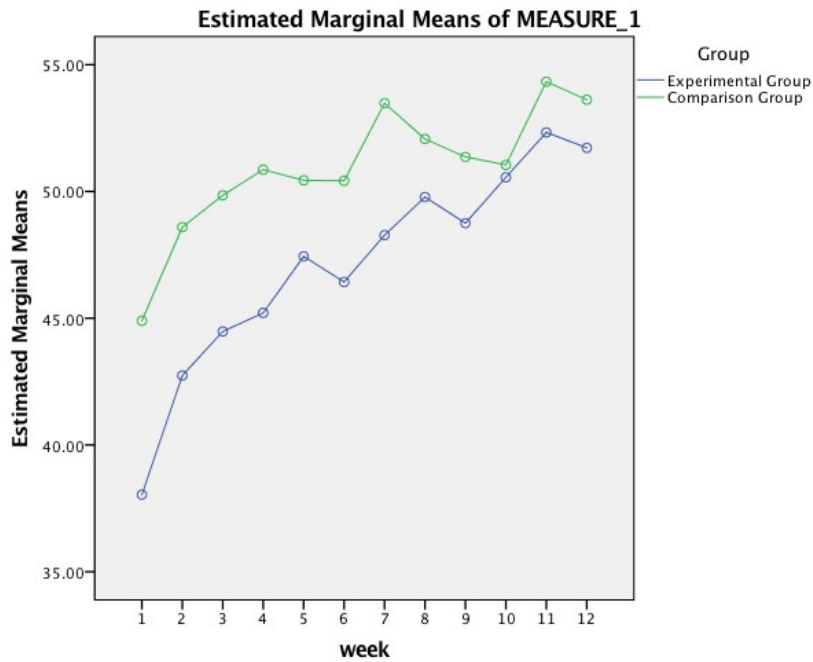


Table 12

***t*-test Results Comparing Experimental and Comparison Group on Anger Control at Each Time Point**

	Experimental Group		Comparison Group			
	M	SD	M	SD	t	p
T1	38.20	7.25	45.30	6.48	-7.01	<.001***
T2	43.39	6.44	49.12	5.52	-6.42	<.001***
T3	43.64	6.72	49.82	5.95	-6.42	<.001***
T4	45.52	6.10	51.06	5.74	-5.93	<.001***
T5	48.62	5.77	51.73	5.84	-2.70	.008
T6	47.10	6.14	50.60	6.08	-4.29	<.001***
T7	49.74	5.56	53.50	5.89	-5.24	<.001***
T8	50.09	5.87	51.62	4.46	-2.56	.011
T9	48.39	5.99	51.45	5.13	-4.38	<.001***
T10	50.04	4.26	50.37	3.83	-.69	.489
T11	52.98	5.85	52.98	4.53	-.36	.722
T12	53.05	4.73	53.13	3.65	-.54	.589

Data indicate that statistically significant differences between the groups were present in weeks 1, 2, 3, 4, 6, 7 and 9, with the Experimental Group recording lower levels of anger control at each point. It appears that the Experimental Group started with lower levels of anger control, but through treatment this level increased to where there was no significant difference between the groups.

To further evaluate the effectiveness of the two treatment conditions on increasing anger control, Cohen's d effect sizes were calculated by using an effect size calculator, measuring the difference in scores in anger control in each group from Week 1 to Week 12. The effect size for the Experimental Group in increasing anger control was $d = 2.43$, and the effect size for the Comparison Group in increasing anger control was $d = 1.49$. This indicates that both treatments were effective in increasing levels of anger control to a much higher degree than most current published studies in the literature (see Chapter 2). Additionally, the Experimental Treatment demonstrated superiority in increasing anger control compared to the Comparison Treatment.

Forgiveness

A preliminary investigation of the data revealed the means on Forgiveness for each of the groups (Experimental Group and Control Group) summarized in Table 13.

From Table 13 it can be seen that participants in the Experimental Group viewed themselves as less forgiving on average than participants in the Comparison Group at the beginning of treatment. To assess baseline differences in the dependent variable, Forgiveness, between the groups, an independent samples t -test was performed. A statistically significant difference was found between groups at baseline,

with the Experimental Group having significantly lower scores on Forgiveness than the Comparison Group, $t = -5.52, p < .001$ (Table 14). This result indicates that the Experimental Group participants viewed themselves as being less forgiving in the first week than did the Comparison Group.

Table 13

Distribution Description for Forgiveness by Group by Time

	Experimental Group		Comparison Group	
N	109		78	
	Mean (SD)	SK (KU)	Mean (SD)	SK (KU)
T1	31.40 (7.04)	-.14 (1.78)	36.78 (5.27)	-.58 (1.78)
T2	32.17 (5.87)	-.46 (2.15)	36.61 (5.20)	-.51 (2.50)
T3	33.68 (5.27)	-.15 (.38)	38.00 (4.76)	-.36 (.08)
T4	35.58 (4.28)	.07 (.72)	36.91 (4.64)	-.82 (2.33)
T5	36.18 (4.49)	-.66 (1.33)	38.92 (4.99)	-1.06 (2.61)
T6	36.49 (4.26)	.11 (.05)	38.19 (5.28)	-.64 (1.14)
T7	36.82 (4.06)	.17 (1.42)	40.03 (5.10)	.17 (1.42)
T8	37.53 (4.24)	-.35 (1.01)	40.79 (4.50)	-.29 (.55)
T9	37.95 (4.57)	.23 (.16)	39.20 (5.30)	-.70 (2.72)
T10	36.51 (3.56)	.77 (1.40)	38.45 (4.68)	-1.38 (6.24)
T11	36.26 (4.90)	.01 (.94)	39.46 (5.01)	-2.20 (12.65)
T12	40.29 (3.07)	-.29 (.28)	38.62 (3.68)	-.51 (2.40)

Table 14

t-test Results Comparing Experimental and Comparison Group on Forgiveness at Baseline

Group	N	Mean	SD	t	df	p
Experimental	108	31.40	7.04	-5.52	178	< .001
Comparison	72	36.78	5.27			

The effectiveness of the treatment groups in increasing forgiveness was explored with a 2 X (12) (Condition: Experimental Treatment, Comparison Treatment X (Time)) analysis of variance (ANOVA) with repeated measures. The data were scores on Forgiveness with each participant assessed at 12 time points. To account for missing data, the near neighbor method was used, imputing a mean of nearby points to complete missing cells. The Comparison Group had more missing data than the Experimental Group, although both groups had a substantial number of cells missing. The main effects of group, time, and the interaction between group and time (i.e., does change over time differ for the Experimental or the Comparison Group) were tested. It was hypothesized that there would be change over time in both groups, and so a main effect of time, with a greater amount of change in the Experimental Group as compared to the Comparison Group, and so a significant interaction.

Independence of observations was assumed. Univariate outliers were reviewed on the dependent variable Forgiveness. When screening for outliers, very few outliers were found in the distribution, so these cases were not removed from the data set. After screening for outliers, normality of the data was investigated using skewness of the variable at each time points. As seen in Table 13, the assumption of normality was met in the Experimental Group in all 12 weeks, and the assumption for normality was met in the Comparison Group in Weeks 1, 2, 3, 4, 6, 7, 8, 9, and 12. The assumption of homogeneity of variance was tested and met in Weeks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 12 and not met in Week 11.

Table 15

Levene's Test of Equality of Error Variances for Forgiveness

	F	df1	df2	Sig.
MEAN(Forgiveness1,2)	3.205	1	162	.075
MEAN(F2,2)	.024	1	162	.876
MEAN(F3,2)	1.376	1	162	.243
MEAN(F4,2)	.027	1	162	.869
MEAN(F5,2)	1.175	1	162	.280
MEAN(F6,2)	2.337	1	162	.128
MEAN(F7,2)	2.339	1	162	.128
MEAN(F8,2)	.174	1	162	.677
MEAN(F9,2)	.036	1	162	.849
MEAN(F10,2)	2.530	1	162	.114
MEAN(F11,2)	3.927	1	162	.049
MEAN(F12,2)	.264	1	162	.608

In order to test sphericity the Greenhouse-Geisser ϵ was inspected and sphericity was observed. For these data the Greenhouse-Geisser ϵ was .71; a typical recommendation for the minimum ϵ is .70.

Assuming sphericity, statistically significant results were found for the main effects of time, $F(11, 23.50) = 68.53, p < .001$, and group, $F(1, 185) = 23.50, p < .001$, and for the interaction between group and time, $F(11, 242.13) = 10.30, p < .001$.

Figure 3 displays the interaction between group and time.

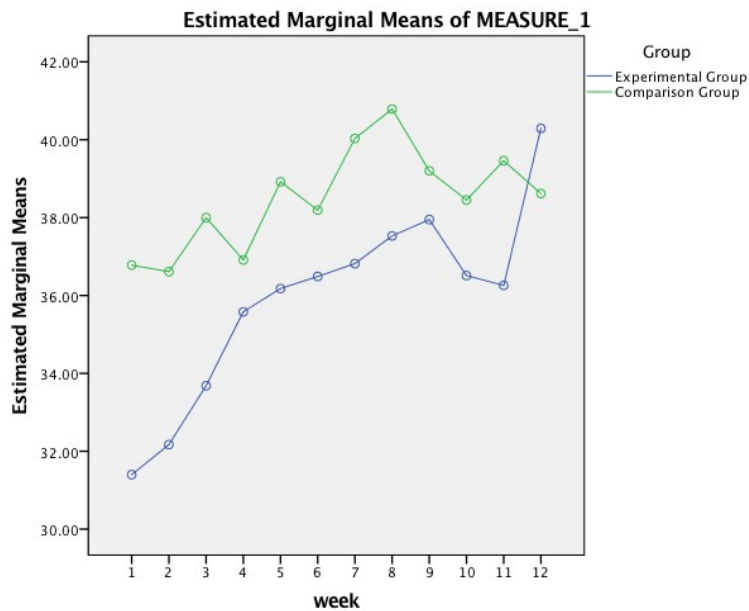
Table 16

Summary Table of Repeated Measures ANOVA of Forgiveness by Group by Time

Source		Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Time	Sphericity	5478.626	11	498.057	24.963	<.001	.134
Assumed	Sphericity	1791.543	11	162.868	8.163	<.001	.048
Time *	Assumed	35554.779	1782	19.952			
Group	Sphericity	3446.504	1	3446.504	20.828	<.001	.114
Assumed	Sphericity	3446.504	1	3446.504	20.828	<.001	.114
Error		26807.367	162	165.478			

Figure 3

Interaction between Group and Time for Forgiveness



As demonstrated by Figure 3, the Time X Group interaction was statistically significant, so simple effects were analyzed. In order to investigate the mean difference at each time point, individual *t*-tests were conducted. To prevent inflation of Type I error at this level of the analysis, a Bonferroni correction for multiple comparisons was applied with a critical value of 0.004. Table 17 summarizes the significant findings for the group by time comparisons. The largest mean differences were observed between the Experimental and Comparison group in Week 1, and the smallest significant difference was observed in Week 6.

Table 17

***t*-test Results Comparing Experimental and Comparison Group on Forgiveness at Each Time Point**

	Experimental Group		Comparison Group			
	M	SD	M	SD	t	p
T1	31.40	7.04	36.78	5.27	-5.52	<.001***
T2	32.17	5.87	36.61	5.20	-4.25	<.001***
T3	33.68	5.27	38.00	4.76	-5.99	<.001***
T4	35.58	4.28	36.91	4.64	-2.58	.011
T5	36.18	4.49	38.92	4.99	-2.00	.047
T6	36.49	4.26	38.19	5.28	-2.40	.017
T7	36.82	4.06	40.03	5.10	-3.43	.001***
T8	37.53	4.24	40.79	4.50	-2.37	.020
T9	37.95	4.57	39.20	5.30	-1.89	.061
T10	36.51	3.56	38.45	4.68	-3.94	<.001***
T11	36.26	4.90	39.46	5.01	-3.37	<.001***
T12	40.29	3.07	38.62	3.68	1.92	.057

Data indicated that statistically significant differences between the groups were present in weeks 1, 2, 3, 7, 10, and 11, with the Experimental Group recording lower levels of forgiveness at each point. It appears that the Experimental Group started with lower levels of forgiveness, but through treatment this level increased to where there was no significant difference between the groups. In the final session, the mean forgiveness scores of the Experimental Treatment actually eclipsed the scores of the Comparison Group, which had been significantly higher at baseline.

To further evaluate the effectiveness of the two treatment conditions on increasing forgiveness, Cohen's d effect sizes were calculated by using an effect size calculator, measuring the difference in mean scores in forgiveness in each group from Week 1 to Week 12. The effect size for the Experimental Group in increasing forgiveness was $d = 1.64$, and the effect size for the Comparison Group in increasing forgiveness was $d = 0.41$. This indicates that the Experimental Group was very effective in increasing forgiveness scores, while the Comparison Group was also effective but less so in increasing forgiveness scores. Additionally, the Experimental Treatment demonstrated superiority in increasing forgiveness compared to the Comparison Treatment.

Follow-up Analyses

Correlations between change scores

As a follow-up analysis, simple bivariate correlations were computed between the change scores of all outcome variables (pooled across both of the groups), and results are reported in Table 18. Change score was computed as the difference in each variable from baseline to the completion of treatment (Week 12- Week 1). It was hypothesized that

changes in forgiveness would have a significant relationship to the changes in both State Anger and the changes in Anger Control. As shown in Table 18, all correlations were statistically significant. Changes in State Anger and changes in Anger Control had a significant relationship ($r = -.68, p < .001$), changes in State Anger and changes in Forgiveness had a significant relationship ($r = -.63, p < .001$), and changes in Anger Control had a significant relationship with changes in Forgiveness ($r = .77, p < .001$). As hypothesized, a statistically significant relationship existed between changes in forgiveness and changes in state anger, as well as changes in forgiveness and changes in anger control. Greater change scores in forgiveness correlate with greater change scores in anger control and greater change scores in state anger. Most notably, there was a strong relationship between the changes in forgiveness and the changes in anger control.

Table 18

Correlations between Changes in Dependent Variables

	Measure	1	2	3
1.	State Anger	--		
2.	Anger Control	-.68 (<.001)	--	
3.	Forgiveness	-.63 (<.001)	.77 (<.001)	--

Forgiveness as a Predictor of Changes in State Anger

Forgiveness was correlated with State Anger and Anger Control. Because of these findings, further investigation of the forgiveness variable was undertaken. A simple linear regression was performed to determine if the baseline forgiveness scores predicted change in the variable State Anger. A simple linear regression was calculated to predict changes

in State Anger from Time 1 to Time 12 based on Forgiveness scores at Time 1. A significant regression equation was found, $F(1, 170) = 71.15, p < .001$, with a R^2 of .30. Participants' predicted State Anger change scores were equal to $-41.904 + .822$ (Time 1 Forgiveness). State Anger change scores increased .822 points for each point increase in Time 1 Forgiveness. Results indicate that baseline forgiveness scores are an effective predictor of change scores in State Anger.

As a follow-up analysis, a simple linear regression was calculated to predict changes in State Anger from Time 1 to Time 12 based on Forgiveness scores at Time 12. A significant regression equation was found, $F(1, 170) = 24.33, p < .001$, with a R^2 of .13. Participants' predicted State Anger change scores were equal to $24.95 + -.975$ (Time 12 Forgiveness). State Anger change scores decreased .975 points for each point increase in Time 12 Forgiveness. Results indicate that end-of-treatment forgiveness scores were an effective predictor of change scores in State Anger.

Forgiveness as a Predictor of Change in Anger Control

Another simple linear regression was calculated to predict changes in Anger Control from Time 1 to Time 12 based on Forgiveness scores at Time 1. A significant regression equation was found $F(1, 170) = 115.05, p < .001$, with a R^2 of .41. Participants' predicted State Anger change scores were equal to $35.87 - .718$ (Time 1 Forgiveness). Anger Control change scores decreased .718 points for each point increase in Time 1 Forgiveness. Results indicate that baseline forgiveness scores were an effective predictor of change scores in Anger Control.

Finally, another simple linear regression was calculated to predict changes in Anger Control from Time 1 to Time 12 based on Forgiveness scores at Time 12. A

significant regression equation was found, $F(1, 170) = 51.03, p < .001$, with a R^2 of .23. Participants' predicted State Anger change scores were equal to $-28.06 + .989$ (Time 12 Forgiveness). Anger Control change scores increased .989 points for each one point increase in Time 12 Forgiveness. Results indicate that end-of-treatment forgiveness scores were an effective predictor of change scores in Anger Control.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

In this randomized-controlled clinical trial of group treatments designed to help patients seeking anger management, an experimental treatment integrating forgiveness therapy and anger management (*Take Control of Your Anger*; Ballard, 2011) was more effective at reducing state anger, increasing anger control, and increasing forgiveness than an alternative anger-reduction treatment. These results suggest that the experimental treatment may include treatment components that are specifically effective for promoting anger control and reducing the psychological symptoms of state anger in a sample of treatment-seeking patients at an outpatient counseling center.

Previous work has repeatedly demonstrated the effectiveness of anger management compared to control groups, and shown that anger treatment is more effective than no treatment (Beck & Fernandez, 1998; Dahlen & Deffenbacher, 2000; Saini, 2009). The present study extends these findings by (a) establishing a new level of treatment effectiveness; (b) comparing an experimental treatment with an established treatment instead of no treatment or a control group; (c) using a clinical population for participation in the study; (d) assessing an outcome that has not previously been assessed in anger studies (forgiveness); (e) demonstrating that an integrated curriculum deliberately designed for anger management can also increase levels of forgiveness; (f) providing evidence that forgiveness therapy may be efficacious for offenders as well as victims.

Establishing a New Level of Treatment Effectiveness

The present study provides important additional information about the efficacy of interventions to treat anger. First, the results of this study go beyond previous outcome studies in determining the efficacy of anger management. Previous studies indicated that various methods to improve anger show effect sizes of between 0.61 and 0.90 (Beck & Fernandez, 1998; DelVeccinio & O'Leary, 2004; DiGuiseppe & Tafrate, 2003; Edmonson & Conger, 1996; Saini, 2009; Sukhodolsky, Kassinove, & Gorman, 2003), with most studies finding effect sizes of approximately 0.70, with little or no significant main effect for treatment (DiGuiseppe & Tarfrate, 2003). Put another way, research has determined that most anger management treatments perform about the same, with moderate effectiveness.

However, the present study demonstrated a much larger effect size of $d = 2.34$ in the experimental treatment for reducing state anger from baseline to the end of treatment. This finding is significantly larger than the standard of 0.70 that has been established in the literature. Additionally, this study produced an effect size of 2.43 for increasing anger control, and an effect size of 1.64 in increasing forgiveness. Clearly, the experimental treatment demonstrated superior effectiveness to published treatments in the literature in terms of reducing state anger and increasing anger control. Although the long-term effects of this treatment are not yet known, this preliminary information seems to suggest that this experimental treatment could be an effective alternative to existing treatments. Additionally, such a sizable difference in effect size requires further discussion. It could be that the experimental treatment is simply much more effective than previous

treatments. However, it is possible that a number of other factors in this study contributed to the dramatically larger effect size. There are several possible explanations for the effectiveness of the experimental treatment.

One explanation could be the methodological advantages of the present study compared to previous studies. It should be noted that this study was superior to most studies in anger management by collecting a larger sample (Goldstein, et al., 2007; Gonzalez-Prendes, 2008; Steffen, 2000) and making the treatment longer than in most studies (DiGiuseppe & Tarfrate, 2003). Thus, with a stronger design in the present study and a larger sample size, it may be that the efficacy of the treatments and the differences between the treatments emerged to a greater degree than in previous published literature.

Additionally, the present study improved on the work of Wade and colleagues (2009) and Luskin, Ginzberg, and Thoreson (2005) in that participants in the present study were only eligible if they were treatment-seeking patients at an outpatient counseling center who explicitly requested services for anger management counseling. Participants were only eligible if they met inclusion criteria of specifically noting that they were currently experiencing several of the negative symptoms of problematic anger, including: emotional volatility; anger that is negatively impacting occupational and relational functioning; negative physical, social and emotional consequences due to anger; and a reported low ability to control these anger symptoms. However, in many published studies, there were no such criteria for participants.

Because of this difference, actual patients in this study showed higher levels of baseline anger than volunteer participants in previous studies (Blocher & Wade, 2010;

Deffenbacher, Dahlen, et al. ,2000). As expected, actual anger management clients had higher levels of state anger and lower levels of anger control than a volunteer population of college students. Due to the higher baseline scores for participants in this study compared to studies in the literature, there was more room for improvement (and thus more opportunity for change reflected in effect size), as well as making regression to the mean more likely. By using actual patients seeking anger-management treatment, larger effect sizes were found. Therefore, it is likely that a future replication of this study using the experimental treatment with undergraduate volunteers (instead of a clinical population) would not show the same level of effectiveness as this study did with actual outpatient clients.

Additionally, there is the issue of motivation. Although not directly measured in this study, it is reasonable to expect that participants in an outpatient counseling center who were voluntarily seeking treatment for anger management would have higher levels of motivation to change than those who are merely volunteers in a study. Since volunteers may or may not be experiencing significant problems with anger, they may not have a high level of motivation to change these behaviors.

It is this author's experience that actual anger management clients frequently demonstrate a very high level of motivation to improve this behavior, above that of typical clients. It is not uncommon for anger management clients to start treatment because of an ultimatum from a spouse, an employer, or the court. These clients often express that they must improve their anger or else lose something very valuable to them, such as their marriage, time with their children, or their job. Other new clients commonly

note that they fear that they will experience these problems in the near future if they do not learn to control their anger. Because of these factors, these clients are often exceptionally motivated to learn how to control their anger, and learn these skills quickly. Therefore, it is likely that participants in this study would have scored much higher in motivation to change than volunteer participants in previous studies.

The literature has shown the importance of motivation to change in determining outcomes in anger treatment. Bowen and Gilchrist (2004) found that motivation to change was an important factor in treatment for those in domestic violence and anger management treatment. Participants who were self-referred showed significantly higher levels of motivation to change than did participants who were court-referred (Bowen & Gilchrist, 2004). Therefore, it is reasonable to expect that voluntary clients at an outpatient counseling center would have higher levels of motivation than clients ordered or required to attend anger management treatment. Since the participants in the present study were self-referred, it is likely that they would have higher levels of motivation to change than court-ordered participants.

The self-referred participants also voluntarily chose treatment and had the option of terminating treatment at any time. Therefore, it stands to reason that those who participated in treatment in this study were those who found it effective, which suggests that attrition could have positively skewed effect sizes. Although this was not measured specifically, it is possible that participants in this study who did not find the treatment useful dropped out, leaving only those participants who were benefitting from the treatment, which would inflate the effectiveness of outcome scores.

It would be expected that if this study was replicated with the experimental treatment being used with a population of patients who were ordered to complete this curriculum, the effect sizes for that group would likely be smaller than those found in this study. For instance, a replication of this study with prison inmates who were required to attend anger management would likely not be as effective as this study with outpatient patients who chose to participate.

Additionally, the group facilitators in this study were licensed mental health professionals with extensive experience in working with anger management clients in group settings. Most published studies in the literature (e.g., Deffenbacher, 1995; Goldman & Wade, 2012) use doctoral students with much less experience as group facilitators. One would suspect that group facilitators with more experience would lead more effective groups than group facilitators with less experience. It is possible that the experience level of the group facilitators (particularly in terms of working with this particular population of anger management clients) played a significant role in the effect sizes of the experimental treatment.

To this point, it should be noted that in this study the comparison treatment also demonstrated itself as much more effective than most published studies. Even though the comparison treatment was outperformed by the experimental treatment, the comparison treatment still had an effect size of 1.01 for state anger, 1.49 for anger control, and 0.41 for forgiveness, higher than most published studies for anger, including the standard of 0.70 for state anger (Beck & Fernandez, 1998; DiGuiseppe & Tafrate, 2003) . Therefore, because of the factors discussed above, using a clinical population in a voluntary

outpatient treatment setting, using participants with a high level of motivation, and using experienced group leaders, the treatment conditions in this study seem to have been set up favorably to maximize effect size. This should be taken into consideration when comparing the results of this study to other outcome studies.

Finally, when evaluating the experimental treatment, it should be noted that the experimental treatment in this study differed from previous treatments for anger in that it contained the component of forgiveness therapy. Forgiveness therapy has repeatedly been shown efficacious in outcome studies. (Baskin & Enright, 2004; Enright & Fitzgibbons, 2010; Wade, Worthington et al., 2005; Waltman, et. al, 2009). Prior to this study, forgiveness therapy has not been integrated into anger management treatment in any published study. DiGiuseppe and Tafrate (2003) noted that most recent treatments for anger management include relaxation, progressive muscle relaxation, systematic desensitization, meditation, biofeedback, self-instructional training, cognitive restructuring, social skills training, problem solving, assertiveness training, exposure, flooding, education, and stress inoculation. However, previous studies in anger management have not included forgiveness therapy as a possible treatment intervention. It could be that adding the highly effective component of forgiveness therapy in the experimental treatment made a significant impact on the efficacy of the treatment, making the treatment for state anger and anger control more powerful and effective.

Comparing an Experimental Treatment with an Established Treatment

By comparing an experimental treatment that integrated anger management and forgiveness therapy with a treatment designed solely to reduce anger and not promote

forgiveness, this study tested the efficacy of anger management in a way that has not been done previously. First of all, previous studies testing the efficacy of anger management (Deffenbacher, Dahlen, et al., 2000; Del Vecchio & O’Leary, 2004; DiGuiseppe & Tarfrate, 2003; have not included a forgiveness component. Previous studies have compared traditional anger management approaches with each other, but none have compared a treatment that included a forgiveness component.

Additionally, the comparison group in this study was an established treatment for anger management. Earlier studies (Kanetsuki, Kanetsuki, & Nedate, 2008; Timmons, et al., 1997) have used alternative treatments that had not been previously researched. For instance, Sukhodolsky, Kassinove, and Gorman (2003) describe several comparison treatments that were not based on any verified curriculum or treatment modality.

Using a Clinical Population

Del Vecchio and O’Leary (2004) specifically noted the need “for outcome research in anger with treatment-seeking individuals and clinical populations.” Olatunji and Lohr (2004) added to this point by suggesting, “What is needed is well-controlled outcome research on high-anger individuals with genuine problems in functioning and rigorously diagnosed disorders.” The vast majority of previous outcome studies on anger management have not been conducted with an actual clinical population.

Many studies have utilized undergraduate college students or volunteers (Deffenbacher, Dahlen, et al. ,2000; Golman & Wade, 2012; Johnson & Connelly, 2014; Trew & Alden, 2009). This study went beyond these finding by using an actual clinical population currently in treatment. By using treatment-seeking individuals in the clinical

population as participants in this study, the generalizability of this study's findings greatly increased (Saini, 2009). The importance of using actual clinical participants in this study should not be overlooked.

Different Presenting Concern

Similarly, most previous studies in forgiveness (Baskin & Enright, 2004; Wade & Meyer, 2010; Wade, Worthington & Haake, 2009) have used participants with differing presenting concerns. For instance, most studies in forgiveness utilize participants who report past hurts or grudges and want to learn to work through these hurts. This study instead started with participants who did not identify themselves as wanting forgiveness, but identified themselves as needing help with anger. By doing so, this study expands on the previous published work in forgiveness.

Assessing Outcomes

Because traditional anger management treatment has not included the component of forgiveness, anger management studies (Candelaria, et al., 2012; Goldstein, et al., 2012; Mackintosh, et al., 2014; Willner, et al., 2013) do not report forgiveness outcomes. This study reported forgiveness outcomes for both the experimental and the comparison groups in anger management, making future study in the relationship between anger and forgiveness more accessible.

Some forgiveness studies (Barber, Maltby, & Macaskill, 2005; Berry, Worthington, O'Conner, Parrott, & Wade, 2005; Goldman & Wade, 2012; Lin, et al.,

2004; Luskin, Ginzberg, & Thoreson, 2005) have reported anger outcomes, but anger studies do not typically report forgiveness outcomes, as forgiveness as a construct has not been assessed.

Anger Management Can Improve Forgiveness

The present study also demonstrates that a curriculum deliberately designed to aid in anger management can also increase levels of forgiveness. Goldman and Wade (2012) and Lin, et al., (2004) found that a forgiveness treatment can decrease anger. This study found that an anger treatment can increase forgiveness. Surprisingly, even in the comparison treatment condition which did not include forgiveness treatment, forgiveness scores improved at a significant level over the 12 weeks of treatment. This suggests that anger management treatment may improve forgiveness outcomes, even when the topic of forgiveness is not explicitly included in the curriculum. It may be that this finding would be true to many other anger management outcome studies, but this construct has not previously been assessed.

Forgiveness Can Reduce Anger

Research has shown that forgiveness therapy can help reduce anger (e.g., Enright et al., 1992; Wade, Bailey, & Shaffer, 2005). This study corroborates these findings in that the experimental treatment group that contained forgiveness therapy outperformed the comparison treatment group that did not in terms of reducing in state anger.

In this study, data showed that forgiveness is an active factor in the treatment of anger. Forgiveness was found to be a good predictor of state anger by adequately predicting changes in this score. For every 1 point increase in forgiveness, state anger

decreases .543 points ($B = .543$, $t = 8.44$, $p < .001$). As forgiveness increased, state anger decreased. Therefore, the data indicate that changes in the level of state anger can be explained in part by forgiveness. A mediation analysis would provide a more complete and thorough analysis of this thought. Knowledge of a participant's forgiveness score allows a researcher the ability of making a very strong prediction about the amount of change they will make in state anger. Correlational data also suggest that at the end of treatment, the higher a participant's level of forgiveness, the more his or her state anger will have reduced.

Further linear regression analyses that looked at outcome variables at Weeks 1 and 12 showed evidence of a strong treatment effect, suggesting that forgiveness treatment in this sample effectively decreased state anger and increased participant ability to control anger. Participants rated that they were able to control their anger better and experienced less state anger after 12 weeks due in part to their changes in forgiveness.

These findings support the use of integrating forgiveness-promoting interventions into treatments to improve anger symptoms, and suggest that by adding a forgiveness component to these treatments, they may be more effective than other types of treatments. It appears that clients who learn to forgive those that have harmed them, as well as learning to forgive themselves for their own mistakes, also improve their anger symptoms.

Effective for Offenders as Well as Victims

Although forgiveness therapy has traditionally been targeted at victims (Coyle & Enright, 1997; Enright & Fitzgibbons, 2010; Finnegan, 2010; Freedman & Enright, 1996; Mamalakis, 2001; Spriggs, Allmond & Smith, 2013), this study suggests that forgiveness therapy may be efficacious not just for victims, but for offenders as well. Many offenders have past hurts and bitterness, and take their anger from these hurts out at others. By effectively using an integrated treatment that includes forgiveness therapy with an offender population, this study seems to suggest that forgiveness therapy can benefit offenders as well as victims.

Clinical Implications

The results of the present study suggest that integrating forgiveness therapy into anger management treatment may have implications for future treatments aimed at reducing state anger and increasing anger control. The experimental treatment led to greater reductions in state anger and increases in anger control and forgiveness over time compared to the alternative treatment. Not only were people improving the negative psychological symptoms of anger, but they were simultaneously improving their ability to control anger, as well improving their levels of forgiveness.

Research on forgiveness therapy has previously established that clients in a forgiveness condition experience greater reductions in symptoms such as depression, post-traumatic symptoms, and vulnerability to alcohol and drug relapse (Lin et al, 2004;

Reed & Enright, 2006). This study has shown that forgiveness therapy also helps clients decrease state anger, and demonstrated that a treatment that includes forgiveness is effective in helping those seeking anger management.

Therefore, it may be important for therapists to work on forgiveness with clients who struggle with anger. Although stress reduction, breathing exercises, and cognitive work are all important in helping someone learn the coping skills needed to manage anger, forgiveness provides a deeper avenue that helps clinicians explore the root of why the person was angry in the first place. By working on this deeper, underlying hurt, the behavioral anger management skills become much simpler since a client is no longer triggered as easily.

It should be noted that it is this author's opinion that behavioral skills to manage anger should be taught first before working on forgiveness. In the same way that a trauma patient needs skills to self-regulate before he or she dives into the deeper trauma work, someone with clinical anger needs skills on how to control anger before he or she should dive into the deeper forgiveness work. Starting on forgiveness work too early could unfortunately lead a client to a vulnerable, painful place before he or she has obtained the skills to know how to deal with these feelings. As I tell my clients, "We have to make sure you have the skills to stop punching holes in walls first before we start digging deeper to find out why you are punching those walls."

The component of forgiveness seems to be particularly important in decreasing anger symptoms. Typical anger management helps patients cope with anger and learn skills to work through these negative emotions. While valuable, forgiveness therapy goes

further by helping someone learn to make peace with their past and move on. For someone with significant anger, this notion cannot be overstated. Someone who is stuck in past bitterness and grudges often experiences anger not just from problems in the present day, but from issues from years past as well. When people learn to forgive, they are no longer as sensitive to their triggers, and no longer react as extremely when their buttons are pushed. In fact, some clients have reported that “buttons” they used to have no longer exist at all. Once someone comes to a point of forgiveness and acceptance with their past, they can move to a place of health and growth in their lives. The bonds of bitterness no longer hold them.

Additionally, forgiveness therapy goes beyond traditional anger management in that the goal no longer becomes simply reducing negative behaviors, but instead promoting positive behaviors. Whereas anger management seeks to limit the negative symptoms of anger, forgiveness encourages positive feelings, behaviors, and interactions. Instead of merely the lessening of a negative, forgiveness promotes to increase of a positive.

It may be useful for therapists to engage in professional development or continuing education, or receive consultation or supervision before using forgiveness therapy in practice. Even a basic amount of information about what forgiveness is and how one might work toward forgiveness could improve a therapist’s work. Greater training would likely lead to greater confidence in this area that would allow therapists to be more effective with their clients.

Limitations

Although this study provided important new information in the research of anger management and forgiveness, it is not without its limitations. Most notably, significant differences existed between the two groups at baseline, making the comparison of these groups problematic. In terms of demographics, the experimental group consisted of 89% males and 11% females, while the comparison group consisted of 78% males and 22% females. 78% of the experimental group was white, with the remaining 22% identifying as ethnic minorities, while in the comparison group 47% identified as white while 53% identified as ethnic minorities. The difference in the ethnic makeup of the two groups is particularly problematic, as differences in culture may account for some of the differences in anger control. Different cultures may respond differently to anger, creating a confounding variable that limits the ability to compare the two groups. For instance, clients from a white background may have grown up with different cultural norms and expectations as to how to respond to anger compared to clients from a different cultural background. Additionally, the sample was primarily white, limiting the generalizability to other racial or ethnic groups. Although random assignment was used in the hopes of creating equal groups at baseline in terms of demographics, the actual groups were not equal. It is unclear why a sequential method of random assignment would lead to groups with such significant differences.

Additionally, there were significant differences between the groups in all three outcome variables at baseline. The experimental group had significantly higher state anger (37.14 in experimental, 29.44 in comparison), lower anger control (38.20 in the

experimental, 45.30 in the comparison), and lower forgiveness (31.40 in the experimental, 36.78 in the comparison). Again, it was expected that random assignment would allow the two groups to start at approximately equal levels. However, this was not found in the actual groups. In a way, these differences bolster the findings. The experimental group was the more challenging group, yet they experienced more significant changes. However, these results present a potential confound of floor effects.

There are a number of possible reasons for the differences between groups at baseline. It is possible that the experimental group truly was an angrier, less forgiving group of people than the comparison group. However, there are also alternative explanations. Although the facilitators for both groups were licensed clinicians with experience in anger management, it seems there were differences with the group facilitators. The design of the present study had therapists conduct only one treatment condition throughout the study, which introduced the variable of therapist characteristics as a possible confounding variable in the study. It is possible that therapist characteristics may have contributed to outcome scores. Although the study attempted to control for therapist factors by providing equivalent levels of therapist experience and education, therapist characteristics (social skills, interpersonal warmth, skills with group dynamics, general effectiveness) could have played a significant role in the effectiveness of the treatment. If the group facilitators had alternated between the two treatment conditions, the therapist characteristics would have been spread across the two conditions and minimized this limitation.

In addition, there were also limitations in the data analysis portion of the study. Because of the substantial missing data, the near neighbor method was used to impute responses that were not complete. The amount of missing data raises questions about the findings, and makes the results less definitive than desired. Ideally, both treatment conditions would have collected surveys every week throughout the duration of the study, which would have minimized the missing data significantly. However, both groups failed to collect surveys some weeks, with the comparison group missing more weeks than the experimental group.

Additionally, there were no follow-up data to give reliable information about the maintenance of the treatment effects over time or the sustainability of the treatment. With a voluntary outpatient population, it was exceedingly difficult to conduct follow-up interviews or collect follow-up surveys after the completion of the anger management programs.

It is also important to note that the data analysis presented in this study cannot conclusively prove that the forgiveness therapy portion of the experimental treatment was the active component that made the significant difference between the two treatments. Although the experimental treatment that included forgiveness outperformed the comparison treatment, it cannot be said conclusively that forgiveness is the reason why. A thorough mediation analysis would need to take place to determine if this was the case. All these factors limit the generalizability of the results of this study and should be considered when interpreting results. Because of these reasons, caution should be exercised in forming conclusions about these results.

Finally, another limitation of this study may be that while the study was able to demonstrate the effectiveness of an experimental approach that integrates forgiveness and anger management, it did so from a purely quantitative standpoint. No qualitative data were used in the study. Although learning that someone's anger scores decreased by a statistically significant margin through forgiveness therapy is valuable and important, merely looking at the numbers alone does not tell the whole story, or give the full impact of learning to forgive. A qualitative perspective on this study would have given clinicians insight and empathy into the lives of those with anger problems, allowing them to gain perspective on how to help those who struggle with anger, and in turn improving their work with this difficult population.

Through an in-depth description of the lived experience of an offender, a qualitative version of this study could have shed light on what it is like to walk in the shoes of someone who struggles with uncontrollable anger and then learns to forgive. This narrative would have described stages of the forgiveness process and personal transformation, from feelings of frustration and helplessness from not being able to control anger, to initial resistance in forgiving past hurts, to making the commitment to forgive, to eventually making peace with past situations and experiencing the freedom and subsequent emotional control that comes with letting go of past hurts. A mixed-method approach to this research question could have allowed a more in-depth exploration of this perspective.

For instance, "Joe" was an actual participant in this study who had been kicked out of his house by his wife for losing his temper. He found himself sleeping on his

friend's couch, unable to see his children or even enter his house when his wife filed a restraining order after he punched a hole in the wall. To make matters worse, when Joe tried to use his credit cards he discovered that his wife had canceled them, and moved all of the money that was in their joint bank account. In the midst of all of this, Joe was served with divorce papers. Because of a bout of uncontrolled anger, Joe's life as he knew it had been turned upside down. This was Joe's story the first week he came to group.

Over the course of treatment Joe learned his triggers, and how they come from the roots of his anger. Initially resistant to the idea of forgiving his past hurts, Joe eventually learned to make peace with his past. After doing so, Joe found many areas of his life improved, and it was much, much easier to control his temper. He was able to mend his relationship with his wife to the extent that she ripped up the divorce papers and invited him back home. In his last session Joe described a scene where he was playing catch with his son in the backyard again. In short, by learning to forgive and control his anger, Joe got his life back. In fact, his marriage and life after the group was arguably even better than the life he had before.

There is a significant emotional difference between reporting that Joe improved his state anger from a 34 to a 17 over the course of treatment (which he did), and telling his story. Although statistically interesting, Joe's story is infinitely more powerful and influential than just reporting the numbers. A mixed-method qualitative approach would have provided greater depth and meaning, and added significance and emotion that the scientific data alone could not communicate.

Alternatively, instead of using a mixed methods approach, the study could have looked at answering the question, "What is a clinically meaningful change?" This analysis could have helped to uncover the clinical significance behind the numbers.

Future Research Questions

This study was able to demonstrate the efficacy of using an experimental treatment integrating forgiveness therapy and anger management in an outpatient population of participants actively seeking services. However, additional component studies are needed in order to effectively determine if forgiveness is an active component in the reduction of anger in this experimental treatment. Further research is necessary before drawing the conclusion that adding the forgiveness component to the anger management treatment was the reason why this treatment was more effective.

This study also did not analyze what treatment conditions work better or worse for this intervention. Does treatment modality make a difference? Successful interventions for anger management have been conducted in individual, couple, and group formats. The present study was done in a group format. However, it may be more effective for the client to have the privacy and focus of an individual modality to work through deep past hurts, particularly in regards to forgiveness.

Additionally, many participants in anger management are not voluntary. Future research is needed to determine if the experimental treatment would be effective in different populations, such as participants who are required to enroll in anger management. Would the experimental treatment remain effective in a mandatory group setting, with lower expected levels of motivation? Because forgiveness therapy requires

more commitment and therapeutic work than traditional anger management, a study in the prison population, known for its low levels of motivation, might be especially intriguing. Would a group that was more resistant to treatment be as open to doing the deeper forgiveness work as the volunteer population used in this sample? These questions need further exploration.

Additionally, the demographic sample in this study was predominantly white from a middle to high level of socio-economic status. Future research could determine if the experimental treatment was also effective in other ethnic, racial, and socio-economic groups. Would the experimental treatment also work with a different population? A follow-up study in an urban community mental health center, for instance, might provide valuable answers to this question.

Another question that is still to be addressed is what personal characteristics make people more or less likely to benefit from the treatment. For example, are there attributes that might make some people more likely to respond positively or negatively to the treatment? Might religious affiliation or commitment make a difference? Perhaps those who are more religious might have a stronger motivation to forgive and therefore be more likely to respond positively to an intervention. Other factors might have an effect, such as a history of abuse or degree of social support.

Research is also needed regarding the role of the therapist. For example, the degree of training counselors or facilitators receive, the level of education of the

therapist, or the therapist skill level might make a difference. Other therapist issues might be addressed by assessing therapists in order to identify potential therapist effects.

Additional statistical analyses could also shed light on the present findings. For example, the use of ANCOVA to look at other variables as covariates could provide additional information. Would the findings still remain true if baseline scores were included as a covariate? if gender or ethnicity was used as a covariate? Could hierarchical linear modeling provide a higher-level analysis of the longitudinal patterns found in this study? Would additional mediation analyses demonstrate that forgiveness is serving as a mediator between reduction of anger and time? Future research could use mediation analysis to determine if forgiveness is acting as a mediator in this scenario. Was there a halo effect present for forgiveness since it was given repeatedly in the questionnaire?

Finally, as stated above, a mixed methods approach might be more effective in showing the power of change in this study by illuminating the experience of learning to forgive for someone with clinical anger. Detailed case studies of participants who experience significant anger who learned to forgive could provide depth, emotion, and understanding to the statistical findings.

Conclusion

Interventions designed at helping people learn skills to manage their anger largely seem to be effective in helping participants decrease state anger and increase anger control. It appears that there are some interventions that work more effectively than others. The experimental treatment (Ballard, 2011) appears to be an effective treatment

that in some ways is more effective than other established treatments for anger. By integrating forgiveness therapy into anger management treatment, the efficacy of this new experimental treatment seems to have improved treatment outcomes. Future research is needed to explore in greater depth the components of this experimental treatment, as well as the predictors and moderators of outcome, among treatments for anger management.

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