THE ASSOCIATION OF THROUGHT-ACTION

FUSION TO SUICIDAL PRONENESS, GENDER, AND

CHRONOGLOGICAL AGE IN ADOLESCENTS

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INTRODUCTION

Overview

Over the last few decades, researchers have attempted to identify specific risk factors that influence the onset of various types of emotional distress in adolescence. One of the most extreme manifestations of emotional distress in adolescents is suicidality. To date, researchers have garnered evidence of the influence of emotional (i.e. depression and negative affect) (i.e. Negron, Piacentini, Graae, Davies, & Shaffer, 1997) and psychosocial (familial turmoil and social isolation) (i.e. Adams, Overholser, & Lehnert, 1994; Groholt, Ekeberg, Wichstrom, & Haldorsen, 2000) processes that contribute to the onset of suicidality in adolescents. Cognitive factors (i.e. hopelessness and self-efficacy) have also been shown to contribute to the onset of suicidality in adolescents. However, no researchers to date have explored the relationship between thought-action fusion and suicide proneness. My purpose in this study was to investigate the relationship between thought-action fusion thinking styles and four measures of suicide proneness in a community sample of adolescents. In addition, I examined gender and age differences in regards to thought-action fusion thinking styles.

Prelude in Cognitive Theory

In this section, I review the role of thought-action fusion within the parameters of cognitive theory. Over the last few decades a number of researchers have used the cognitive model to explain the onset of psychopathology in both adults and adolescents (Beck & Emery, 1985). Broadly, cognitive theorists assert that how one thinks largely impacts how one feels and/or behaves (Engler, 2006). Within cognitive theory Beck and Hollon (1993) contend that the role of schemas are vital in the maintenance of emotional stability within an individual. Specifically, a schema is a cognitive structure that acts as a

blueprint of an individual's core beliefs and assumptions about how the world functions (Engler, 2006). According to Beck, schemas develop early in life, and are continually transformed by a person's individual experiences or features of the environment in which an individual resides (Young, Klosko, & Weishaar, 2003).

Beck and Hollon (1993) noted that cognitive schemas can either influence or inhibit the onset of emotional distress and/or psychopathology. Specifically, Beck (1967) theorized that negative schemas are often developed through the continued use of cognitive distortions and maladaptive automatic thoughts in daily functioning. Cognitive distortions refer to the processes where information gleaned from external events engender a significant amount of systematic bias that hinder one's ability to effectively test reality (Leung & Wong, 1998). Furthermore, maladaptive automatic thoughts represent thinking patterns that reflect this systematic error, leaving one more vulnerable to the onset of psychological distress or deviant behavior (Leung & Wong, 1998).

Considering the developmental aspects of adolescents, it is not hard to surmise that teenagers may be more influenced by cognitive distortions then adults. An important aspect of Piaget's formal operations stage that is useful in predicting emotional stability in adolescence is the ability to successfully test reality. Adolescents must shed dependence upon egocentric-approaches in appraising specific events (Lapsley, Milstead, Quintana, Flannery, & Buss, 1986), master an appropriate level of responsibility and control over their lives (Abramson, Metalsky, & Alloy, 1989), and develop a stable sense of self-concept (Erikson, 1968), in order to effectively establish accurate reality testing abilities. However, if adolescents continually face negative life stressors and/or their environment is not conducive to positive development, adolescents may depend more

upon cognitive distortions and maladaptive automatic thoughts to cope with their daily lives (Young, Klosko, & Weishaar, 2003). Unfortunately, reliance upon cognitive distortions will likely inhibit the ability to effectively test reality, therefore, creating more distress for the adolescent.

Lastly, since adolescents appear more prone to cognitive distortions and vulnerabilities, Orbach, Mikulincer, Blumenson, Mester, and Stein (1999) noted that it is important for researchers to continue to identify cognitive variables that may be pervasive in an adolescent's attempt to maintain emotional stability. One specific cognitive variable that appears to have a significant influence on an adolescent's ability to maintain emotional stability is thought-action fusion (Muris, Meesters, Rassin, Merckelbach, & Campbell, 2001).

The Presentation of the Thought-Action Fusion Construct

Thought-action fusion (TAF) was derived from Rachman's (1993) desire to use the cognitive model to help explain the onset of obsessive-compulsive disorder. Moreover, Rachman (1993) noticed his patients' obsessions could be characterized by three features: an elevated sense of responsibility, the attachment of undue significance to obsessional activities, and the tendency to psychologically fuse thoughts and actions (Rachman, 1993).

Specifically, Rachman (1993) noted that when a patient experienced an obsessional thought, it was generally accompanied by a strong sense of responsibility for the thought and its significance in the outcome of an event. Generally, Rachman contended that this procedure is similar to a self-defeating process. First, the patient feels morally and psychologically responsible for the intrusive thought. As a result, the patient

is likely to punish himself/herself by internalizing an irrational amount of blame for allowing the intrusive thought to exist. Lastly, the patient will experience extreme amounts of guilt for not being able to control the intrusive thought which he/she perceived led to a negative outcome. For instance, a person who has intrusive sexual or violent thoughts about another is likely to chastise himself/herself for having those thoughts and experience a strong sense of internal blame and guilt if anything negative happens to the person the intrusive thoughts were directed towards.

The second feature of Rachman's (1993) obsessional thinking is the assigning of significance to the intrusive thought. Rachman noted that most individuals confront intrusive thoughts on a daily basis, however only a handful of individuals are negatively affected by these thoughts. These individuals who are negatively affected by the intrusive thoughts are likely to attribute some special significance to the intrusive thought that helps maintain its position within human consciousness. Rachman observed that when the intrusive thought is attached to some kind of special meaning and withheld in human consciousness, it is likely to become more distressing and adhesive. Rachman asserted that distress most likely would take the form of debilitative anxiety and/or guilt. Rachman also noted that the adhesive quality of attributing a special meaning to intrusive thoughts likely influences the re-occurrence of attributing special meaning to other intrusive thoughts. Thus, the individual simulates a downward spiral affect whereby one is conditioned to continually recognize and attach special meanings to the most negative intrusive thoughts.

The last feature of Rachman's (1993) obsessional thought theory occurs when an individual fuses an intrusive thought with a forbidden action. Specifically, the fusion

aspect occurs when an individual appears to regard the intrusive thought and the forbidden action as morally equivalent to each other (TAF-Moral beliefs) (e.g. it is equally wrong to think about pushing someone out a window as to actually pushing someone out the window). These individuals are likely to feel they are unable to control the fusion between the intrusive thoughts and the forbidden action, which in turn will likely exacerbate the amount of distress or guilt experienced. Additionally, Rachman also noted that his patients often fused negative thoughts with the expectancy of certain outcome events. Specifically, he noticed that his patients were more likely to believe that thinking of a negative event will increase the odds the actual negative event will occur (TAF-Likelihood beliefs). Similarly, these individuals feel a strong sense of responsibility for the occurrence of a negative event, which makes them more vulnerable to bouts of anxiety, self-blame, and depression.

Overall, it appears that an inability to control and shed intrusive thoughts precipitates a maladaptive process that leads to the experience of extreme guilt and self-blame. Moreover, interference by intrusive thoughts may inhibit the ability of individuals to successfully test reality. If individuals continue to use this specific appraisal style in managing difficult situations, it is likely that the amount of distress experienced will develop into more psychopathological problems such as obsessive-compulsive disorder, depression, other types of anxiety disorders, and potentially suicidal ideation and/or attempts (Berle & Starcevic, 2005).

Onset of Thought-Action Fusion

Although there has been no empirical evidence that explains the precipitation of TAF beliefs, some researchers (i.e. Berle & Starcevic, 2005; Rassin & Koster, 2003;

Salkovskis, Shafran, Rachman, & Freeston, 1999) have theorized about a few constructs that may influence the onset of TAF beliefs. Salkovskis and colleagues (1999) asserted that TAF beliefs develop from numerous subtle interacting factors that an individual experiences over many years. Specifically, Salkovskis and colleagues (1999) noted that the inflated responsibility towards beliefs is oriented from two factors. The first factors that appear to be associated with the onset of TAF beliefs are strict belief systems and behavioral codes that are imbued upon a person by an authoritative figure (Berle & Starcevic, 2005). Specifically, religion and/or religiosity may be one vital source of these strict beliefs and/or behavioral codes (Rassin & Koster, 2003). However, Rassin and Koster (2003) clearly stated that their results do not indicate that being religious or actively participating in religious doctrine is likely to increase the chances of one fusing intrusive thoughts and forbidden actions. Rather that it is the common traits (i.e. a rigid interpretation of belief system, a person's conviction, and/or an excessive fear of staunch religious people of being punished or criticized) that are usually found within staunch religious individuals, which may make them to more susceptible to TAF beliefs.

Another potentially contributing factor to the onset of TAF is the specific time when the intrusive thoughts occur. Specifically, Salkovskis and colleagues (1999) postulated that TAF beliefs develop following a specific event. Berle and Starcevic (2005) elaborated further by stating that a "coincidental co-occurrence of a thought and a significant event may lead to a person to form an erroneous causal link between the two (p. 278)." These coincidental co-occurrences may be important in the onset of TAF beliefs. This is especially true if these co-occurrences continue to occur through the

development of an individual or if they are combined with particular pre-existing attitudes or assumptions (i.e. other intrusive beliefs) (Berle & Starcevic, 2005).

Lastly, Berle and Starcevic (2005) noted that other personality characteristics such as neuroticism, narcissism, and/or harm avoidance may influence on the onset of TAF beliefs. Specifically, they noted that personality factors that feature faulty assumptions about the power or influence of one's belief system may impact the onset of specific TAF beliefs. However, no researchers, to date, have examined if a relationship exists between TAF beliefs and personality traits, much less the role personality factors play in the onset and/or exacerbation of TAF beliefs.

Assessment of Thought-Action Fusion

TAF beliefs are assessed by using two distinct but highly correlated measures. The first and most globally used type of measurement of TAF beliefs is a self-report instrument (The Thought-Action Fusion Questionnaire; Shafran, Thordarson, & Rachman, 1996). Researchers have concluded that the self-report instrument is a valid and reliable measure of adult engagement in TAF thinking. Similarly, Muris and colleagues (2001) established a TAF self-report survey for adolescents. Again, researchers have deemed the adolescent version of the self-report TAF instrument as a reliable and valid measure.

A second type of assessment for measuring TAF beliefs is Rachman, Shafran, Mitchell, Trant, and Teachman's (1996) "sentence paradigm" experiment. Rachman and colleagues developed an experiment to evoke TAF beliefs in participants. Specifically, Rachman and colleagues asked participants to think of a name of a close friend or relative. After the participant identifies a close friend or relative, the experimenters give

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the participants a piece of paper with an incomplete sentence on it (e.g. I hope _____ is in a car accident). The participant is asked to write the name of the close friend or relative in the blank and then spend a few minutes reflecting on the situation that the sentence produces. The experiment has been found to elicit such distress as anxiety, discomfort, and the urge to neutralize (Rachman et al., 1996). Shafran and Rachman (2004) noted that such an experiment reflects the operation of TAF in individuals. Furthermore, Rachman and colleagues (1996) indicated that there was a strong association between TAF-Likelihood for others scores on the TAF self-survey and the estimates of the probability of the adverse events measured by the sentence paradigm experiment. This strong association indicates that the TAF-Likelihood for others has strong predictive validity.

Correlates of Thought-Action Fusion

Researchers (Abramowitz, Whiteside, Lynam, & Kalsy, 2003; Amir, Freshman, Ramsey, Neary, & Brigidi, 2001; Coles, Mennin, & Heimberg, 2001; Hazlett-Stevens, Zucker, & Craske, 2002; Muris et al., 2001; Barrett & Healy, 2003; Rassin, Muris, Schmidt, & Merckelbach, 2000; Shafran et al., 1996) have identified that TAF beliefs are associated with various types of emotional distress in both clinical and non-clinical samples. Specifically, TAF beliefs have been associated with obsessive-compulsive symptoms, inflated responsibility, guilt, other types of anxiety symptoms, and depression.

Obsessive-compulsive symptoms and TAF beliefs. As previously noted, TAF beliefs were originally observed by Rachman (1993) in order to help researchers and clinicians explain a viable model of how the onset of OCD occurs within specific individuals. As a result of Rachman's (1993) observations, many researchers

(Abramowitz, et al., 2003; Amir, et al., 2001; Coles et al., 2001; Rassin, et al., 2000) have found a positive association between TAF beliefs and OCD symptoms. Moreover, Abramowitz and colleagues (2003) asserted that the association between TAF beliefs and OCD symptoms may indicate that TAF might be a significant factor in the onset of obsessive-compulsive disorder (OCD) type symptoms. Furthermore, Abranmowitz and colleagues' assertion gives credence to the possibility that cognitive factors play a major role in the treatment of OCD.

Unfortunately, a positive association between TAF beliefs and OCD symptoms does not indicate that TAF beliefs play a powerful role in the onset or exacerbation of OCD symptoms. However, a handful of researchers have constructed structural equation models to help clarify the role of TAF beliefs in the onset of OCD symptoms. Specifically, Rassin and colleagues (2000) postulated that TAF beliefs' interaction with thought suppression might explain a significant portion of variance in the onset of OCD symptoms. They theorized that an individual who over-evaluated the significance and consequences of intrusive thoughts (TAF) would attempt to use more thought suppression strategies to alleviate some of the distress. Paradoxically, researchers such as Wegner, Schneider, Carter, and White (1987) found that suppression of thoughts exacerbated the amount of intrusive thoughts experienced. As a result, Rassin and colleagues (2000) postulated that the combination of TAF beliefs and thought suppression would likely influence the onset of OCD symptoms.

Additionally, Rassin and colleagues (2000) tested five models that they thought could account for a majority of variance in OCD symptomology. Their analysis revealed that only one of their models had an adequate fit. Specifically, that model suggested TAF

beliefs led to the use of more thought suppression, which in turn increased the likelihood of individuals experiencing OCD symptoms.

Similarly, Abramowitz and colleagues (2003) wanted to determine if TAF beliefs were directly associated with OCD symptoms or if other variables mediated the relationship between TAF beliefs and OCD symptoms. They noted that since TAF beliefs were associated with other types of emotional distress (i.e. symptoms of anxiety and depression) it might be plausible to assume that negative affect mediates the relationship between TAF beliefs and OCD symptoms. They ran a mediational model where they used TAF beliefs as the dependent variable, diagnostic groups as the independent variable, and negative affect (i.e. symptoms of anxiety and depression) as the mediating variable. Their data were taken from samples of patients with a diagnosis of OCD, panic attack disorder, generalized anxiety disorder, social phobia, depression, and a non-clinical control group. These six groups were regressed onto five dummy variables, so that the researchers could easily contrast each of the groups against the OCD group in regards to TAF beliefs. Before examining the mediational role of negative affect, the researchers indicated that patients with a primary diagnosis of OCD reported higher scores of TAF-Likelihood beliefs than all of the other diagnostic groups. However, after controlling for the effect of anxiety and depressions scores (i.e. negative affect), they found that TAF belief scores for the OCD group were not different from the scores of any other diagnostic group. Thus, Abramowitz and colleagues suggested that negative affect, in the form of depression and anxiety, mediated the relationship between TAF beliefs (particularly TAF-Likelihood beliefs) and OCD symptomology.

Perceived responsibility and TAF beliefs. Amir and colleagues (2001) found that TAF beliefs were positively related to inflated types of responsibility in the onset of obsessions. Specifically, Rachman (1997) proposed that an inflated sense of responsibility can both contribute to and engender a significant amount of TAF beliefs in an individual. As a result of Rachman's theory, researchers have examined the relationship between TAF beliefs and responsibility. Specifically, a number of researchers (i.e. Gwilliam, Well, & Cartwright-Hatton, 2004; Rachman et al., 1996; Smari & Holmsteinsson, 2001; Yorulmaz, Yilmaz, & Gencoz, 2004) have concluded that there is a positive association between TAF beliefs and an inflated sense of responsibility.

Despite the positive relationship between inflated responsibility and TAF beliefs, Berle and Starcevic (2005) asserted there are other issues that need to be investigated in order for a more comprehensive understanding of the relationship. One such issue is the notion of a uni-dimensional idea of responsibility. Berle and Starcevic (2005) contended that there may be more then one type of inflated responsibility that TAF beliefs might be related to. In general terms, Rheaume, Freeston, Dugas, Letarte, and Ladouceur (1998) described perceived responsibility as a "belief that one possesses the pivotal power to provoke or prevent subjective crucial outcomes (p. 7)." According to Berle and Starcevic (2005) this type of perceived responsibility seems to be more closely related to TAF-Likelihood beliefs, as opposed to TAF-Moral beliefs. Individuals who report high levels of TAF-Likelihood beliefs generally perceive that their thought processes have a magical power that influences certain realistic events. As a result, these individuals are likely to believe that it is their responsibility to prevent harm either to themselves or others for engaging in a specific thought processes.

However, this does not appear to be the case with those individuals who report high levels of TAF-Moral beliefs. TAF-Moral beliefs reflect the idea that thoughts are equivalent to specific actions. As a result, they would most likely not be concerned about whether or not they could inhibit or enhance the likelihood of a certain outcome because there is no longer any harm to prevent. In their perception, by thinking certain immoral thoughts they have already sinned, therefore, feeling more hopeless and helpless about the possibility of rectifying their sins.

Alternatively, Rachman (1993) described another type of perceived responsibility that may be associated with TAF beliefs. He noted that a second type of inflated responsibility involves the appraisal of the occurrence of intrusive thoughts. Rachman (1993) stated that when an individual attaches a significant meaning to intrusive thoughts, it is often associated with a sense that he/she is morally responsible for having such thoughts. Berle and Starcevic (2005) believe that this type of responsibility is more associated with TAF-Moral beliefs compared to TAF-Likelihood beliefs. However, no researchers, to my knowledge, have examined the relationship between both subscales of TAF beliefs with various types of responsibilities.

Guilt and TAF beliefs. A number of researchers (Berle & Starcevic, 2005; Rachman et al., 1995; Rachman et al., 1996) have postulated that the logical outcome of attributing significant meanings to intrusive thoughts is guilt. This is especially true in regards to TAF beliefs. Berle and Starcevic (2005) asserted that guilt and responsibility are "closely aligned experiences (p. 273)." Therefore, a person experiencing irrational amounts of inflated responsibility for having immoral thoughts (TAF-Moral) or for not

being able to prevent harm that is associated with the intrusive thoughts (TAF-Likelihood) may be more at risk to experience a significant amount of guilt.

Rachman and colleagues (1995) did find support for the positive association between the subscales of TAF beliefs and state/trait guilt. Furthermore, Rachman and colleagues (1996) suggested that guilt appears to increase when TAF thinking is induced by the "sentence paradigm" experiment. Lastly, in a study that looked at the neutralization of TAF beliefs, Zucker, Craske, Barrios, and Holguin (2002) found that guilt was one of the motivating factors that drove individuals to attempt to neutralize the potential threat of harm from TAF-Likelihood beliefs.

Anxiety symptoms and TAF beliefs. In addition to experiencing intense amounts of guilt, individuals who engage in TAF beliefs may also be subjected to bouts of anxiety. During clinical interviews with patients who had a diagnosis of generalized anxiety disorder, Borkovec and Roemer (1995) asked them what was the benefit of worrying about a specific event? The overwhelming response from the patients was that they felt excessive worry would diminish the likelihood that something bad would happen to them. As a result, Hazlett-Stevens and colleagues (2002) highlighted the possibility that TAF related beliefs may play an integral role in the onset of other anxiety related disorders besides OCD.

In an undergraduate sample, Hazlett-Stevens and colleagues (2002) found that pathological worry was significantly associated with the TAF-Likelihood beliefs, however, they did not find an association between pathological worry and TAF-Moral beliefs. Furthermore, Hazlett-Stevens and colleagues also found that TAF-Likelihood beliefs were more prevalent in a group of undergraduates who met the criteria for full-

blown or partial generalized anxiety disorder (GAD), then those undergraduates who did not meet any of the criteria for GAD.

Moreover, some researchers (Rassin, Diepstraten, Merckelbach, & Muris, 2001a; Rassin, Merckelbach, Muris, & Schmidt, 2001b) have found empirical evidence that TAF beliefs may be prevalent in other anxiety disorder, besides OCD and GAD. Specifically, Rassin, Diepstraten, and colleagues (2001a) found in an adult clinical sample that there were no significant differences in TAF beliefs among patients with OCD, panic attack disorder, social phobia, and GAD. Additionally, in a university student sample, Rassin, Merckelbach, and colleagues (2001b) found that students with mixed-anxiety diagnosis scored significantly higher on TAF beliefs then students with no anxiety diagnosis.

Depression and TAF beliefs. As previously noted, Abramowitz and colleagues (2003) determined that depression was one of a few factors that mediated the relationship between TAF beliefs and OCD symptomology. Specifically, Berle and Starcevic (2005) noted that some elements of TAF beliefs may be associated with self-blame, personalization, and guilt tendencies that are apparent in depression. As a result, Berle and Starcevic suggested that TAF beliefs may play an integral role in the development and the maintenance of depression.

A number of researchers (Abramowitz et al., 2003; Muris et al., 2001; Rachman et al., 1995; Rassin, Merckelbach, et al., 2001; Shafran et al., 1996) have found a positive association between depression and TAF beliefs. However, upon closer examination, it appears that only TAF-Moral beliefs account for the association with depression. Considering that anxiety and depression are highly associated with each other, Abramowitz and colleagues (2003) wanted to determine whether the TAF

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belief/depression relationship existed after controlling for the variance accounted for by anxiety. As hypothesized, their results suggested that after controlling for the variance accounted for by anxiety, depression was moderately associated with TAF-Moral beliefs.

Berle and Starcevic asserted that TAF-Moral beliefs play a more integral role in the development and maintenance of depression because of an embedded sense of ineffectiveness or powerlessness to change the moral wrong. Again, going back the features of TAF-Moral beliefs, Shafran and colleagues (1996) contended that once an individual has allowed an immoral negative thought to exist, it is equivalent to have committing the immoral act. Consequently, once the individual has acknowledged the immoral thought, the damage has already been done. Essentially, this process does not allow for the possibility of self-correction or intervention, therefore, leaving the individual in a state of powerlessness and/or helplessness to rectify the immoral response.

Adolescence and TAF Beliefs

To date, only a few researchers have examined the cognitive processes of TAF beliefs in adolescents. In both studies, researchers attempted to replicate findings from an adult sample onto a sample of adolescents. Muris and colleagues (2001) wanted to determine if the correlations between TAF beliefs and a number of distress variables would be upheld in a sample of community adolescents. Muris and colleagues (2001) validated that both TAF-Likelihood beliefs and TAF-Moral beliefs were positively associated with state/trait anxiety, obsessions, agoraphobia, generalized anxiety disorder, separation anxiety, social phobias, obsessive-compulsive disorder, and depression in adolescents.

Barrett and Healy (2003) also found that children with a clinical diagnosis of OCD reported higher levels of TAF beliefs compared to a controlled sample of community children. As a result, both sets of researchers concluded that similar TAF thinking processes occur in both community and clinical samples of adolescents and adult.

Adolescent Suicide and TAF Beliefs.

In light of the various correlates of TAF beliefs (i.e. inflated responsibility, guilt, anxiety, and depression), researchers have begun to ponder the question of whether TAF beliefs are specific only to the onset of OCD or are they a general process that can lead to the onset of a number of other disorders? Shafran and Rachman (2004) asserted that TAF research needs to be extended by demonstrating if the phenomenon contributes to the onset of other types of clinical disorders (i.e. affective or eating disorders). My main goal in this proposed study was to determine if TAF beliefs have a significant association with suicidal prone thoughts and behaviors in adolescents.

Although there has been no known researcher who has garnered empirical evidence that an association exists between TAF beliefs and suicidal thinking and behaviors in adolescents, there are several commonalities that exist between the two constructs. Firstly, TAF beliefs and suicidal behaviors share some common correlates. Much like TAF beliefs, suicidal prone thoughts and behaviors are positively associated with guilt (i.e. Hailborn, 2000), anxiety and/or pathological worry (i.e. Askenazy, Sorci, Benoit, Lestideau, Myquel, & Lecrubier, 2003), and depression (i.e. Rohde, Seeley, Langhinrichsen-Rohling, & Rohling, 2003). Furthermore, if TAF beliefs engender frequent bouts of guilt, anxiety/worry, and/or depression, an individual may become

increasingly more vulnerable to severe forms of emotional distress (i.e. suicide ideation and/or suicide attempts) (Rohde, Seeley, Langhinrichsen-Rohling, & Rohling, 2003).

Secondly, as previously noted, TAF can be described as an internalized cognitive response style (Berle & Starcevic, 2005). Moreover, TAF appraisals are likely to incorporate some type of obsessional impulse which Berle and Starcevic (2005) described as a severe form of rumination. Specifically, individuals who experience TAF beliefs are likely to ruminate about negative outcomes that could occur as a result of the immoral intrusive thought. As defined by Nolen-Hoeksema, McBride, and Larsen (1997) rumination is "passively and repetitively focusing on one's symptoms of distress and the circumstances surrounding those symptoms (p. 855)." People who tend ruminate more generally are prone to lengthen or worsen their negative emotions (Butler & Nolen-Hoeksema, 1994).

Eshun (2000) hypothesized that rumination scores would predict a significant amount of variance in suicide ideation scores in a sample of American young adults. As expected, Eshun's results indicated that rumination did predict a significant amount of variance in suicide ideation scores. Furthermore, Eshun (2000) concluded that cognitive appraisal styles that incorporated more rumination were likely to be associated with more severe forms of emotional distress such as suicidal attempts. Overall, since TAF appears to be an internalized cognitive appraisal style that places a heavy emphasis on rumination, it is reasonable to assume that TAF beliefs may be associated with some forms of suicidality in adolescence.

Lastly, Berle and Starcevic (2005) theorized that TAF beliefs may be related to a low sense of self-worth. Specifically, Shafran and colleagues (1996) cited an example of

an OCD patient experiencing TAF beliefs. In this vignette, Shafran and colleagues highlighted that after experiencing the TAF belief the patient negatively evaluated herself as being a "bad" person. This negative evaluation may be the precipitant factor that spurs the onset of other more severe forms of emotional distress such as suicide ideation and/or suicide attempts. A number of researchers (i.e. Fergusson, Beautrais, & Horwood, 2003; Groholt, Ekeberg, Wichstrom, & Haldorsen, 2000; Lewinsohn, Rohde, & Seeley, 1994) have found strong evidence that suggests that self-esteem is an influential factor in the onset of both suicide ideation and suicide behaviors in adolescents and young adults. Additionally, Groholt, Ekeberg, Wichstrom, and Haldorsen (2005) theorized that individuals who suffer from low self-esteem have a difficult time giving themselves positive feedback; increasing the likelihood that an individual experiences some type of suicidal manifestation. In sum, it appears that TAF beliefs may act as an antecedent for low self-esteem, which places an individual at a higher level of risk for experiencing some type of suicidal thoughts and/or behaviors.

Gender and TAF Beliefs

Another gap in the TAF literature that needs to be considered is the role of gender differences in the conceptualization of TAF beliefs. To date, there has been only one known researcher who has looked at the effects of gender on TAF beliefs. Muris and colleagues (2001) sampled a group of Dutch adolescents in secondary school, and reported that males and females did not differ significantly on measures of both TAF-Moral beliefs and TAF-Likelihood beliefs. However, it is debatable whether this finding would generalize to another sample of adolescents (i.e. a sample of American community adolescents).

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Consequently, there is a wealth of empirical evidence and theory that suggests that gender differences in TAF beliefs could occur in a sample of American adolescents. Berle and Starcevic (2005) asserted that TAF beliefs are actually a type of an appraisal style. One quality of the TAF appraisal style is the specific emphasis on internalization. Essentially, an individual places irrational blame upon the self for not being able to control his/her intrusive thoughts or the outcome engendered by his/her intrusive thoughts. As a result, one could easily describe TAF as internalized cognitive appraisal style. Moreover, a large number of researchers (i.e. Butler & Nolen-Hoeksema, 1994; Ingram, 1990; Ingram, Cruet, Johnson, & Winsnicks, 1988; Nolen-Hoeksema & Morrow, 1993; Sethi & Nolen-Hoeksema, 1997) have found that female adolescents in the U.S. are more likely then U.S. adolescent males to engage in more internalized cognitive appraisal strategies.

In an attempt to clarify how gender differences in depression arise, Butler and Nolen-Hoeksema (1994) found that depressed women were more likely to use self-reflection, ruminative coping strategies, whereas depressed men were likely to distract themselves more often by thinking about or doing other things. Experimentally, Ingram and colleagues (1988) found that regardless of their current mood men preferred to focus on more external tasks (i.e. watching television) while women preferred to focus on more internal tasks (i.e. looking at oneself in the mirror). Additionally, Klimes-Dougan and colleagues (1999) found that participants who were more suicidal used more internal cognitive appraisal styles (i.e. rumination) compared to adolescents who were not suicidal. However, both Butler and Nolen-Hoeksema (1994) and Ingram and colleagues

(1988) sampled adults for their investigation, and were concerned about whether these results could generalize to an adolescent sample.

As a result, Sethi and Nolen-Hoeksema (1997) wanted to determine whether specific cognitive appraisal styles could be differentiated by gender in a sample of adolescents. As expected, Sethi and Nolen-Hoeksema (1997) experimentally found that males and females tended to think about very different things. Regardless of mood, Sethi and Nolen-Hoeksema reported that female thinking patterns reflected an internal and relational focus, whereas male thinking patterns reflected an external focus. Overall, since TAF has been theoretically classified as an internalized cognitive appraisal style, one might conclude that TAF beliefs may be more pervasive in female American adolescents compared to their male counterparts. Additionally, gender differences in TAF thinking might help researchers explain why gender differences occur in other clinical constructs (i.e. depression and suicidality). Therefore, a secondary purpose for me in this study was to determine whether gender differences exist in TAF thinking.

Chronological Age and TAF Beliefs

Despite the empirical results that suggest similar TAF processes occur in both adult and adolescent samples, there have been no known research that has taken into consideration developmental aspects of adolescents and how it impacts the onset of TAF beleifs. Specifically, developmental researchers (Elkind, 1967; Hudson & Gray, 1986; Looft & Charles, 1971; Low, 1999; Makros & McCabe, 2001; Wilson, Stelzer, Bergman, Kral, Inayatullah, & Elliot, 1995) theorized that during adolescence, normal individuals experience a lack of self-insight towards their thoughts and beliefs, a difficult time constructing their identity, and a heighten state of egocentric thinking. These

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developmental factors may contribute a significant amount of variance in the onset of TAF beliefs.

Piaget's Theory. According to Piaget (as cited in Diessner & Tiegs, 2001), adolescence is marked by the ability to think abstractly (i.e. formal operations). More specifically, Piaget characterized formal operations as a type of hypothetico-deductive thinking that allows teenagers to draw conclusions about specific events from their perceptions and hypotheses. This type of thinking is quite discrepant from previous methods individuals used as a child going through the concrete operations stage of cognitive development. Specifically, concrete thinking requires individuals to observe events in order for them to reflect and form hypothesis, while in formal operations adolescents are now liberated from thinking that is built on concrete operations. This shift allows adolescents to draw conclusions about stimuli based on their self-reflections and theories. However, drawing conclusions from perceptions and hypotheses may be quite alarming for the teenager who just entered into adolescence. Specifically, Piaget asserted that young teenagers are "frequently occupied with disarmingly naïve and chimeric ideas concerning the future of the world (as cited in Diessner & Teigs, 2001, p. 242)." As a result, younger adolescents may be more susceptible to misuse their new thinking abilities. Younger adolescent may frequently misinterpret the cause of specific events, due to their naïve hypothesis and perceptions of themselves and the world in which they live. However, as young adolescents grow older, Piaget noted that they will become more accurate in interpreting the meaning of events. This process may explain why younger teenagers are more prone to irrational and inaccurate thinking then older teenagers.

Specifically, younger teenagers may frequently misinterpret their abilities in affecting certain outcomes.

Erikson's Theory. Additionally, according to Low (1999) identity development plays an integral role in the formation of cognitive processes. Specifically, Erikson (1968) noted that a developed sense of identity was more synonymous with positive and healthy cognitive beliefs. However, Erikson noted that in adolescents who were in a state of identity diffusion cognitive errors in information processing became more prevalent. Marcia (1966) defined identity diffusion as a state where individuals are not presently exploring alternative beliefs and in general have not committed to a set of beliefs that increase the quality of daily functioning.

Moreover, Makros and McCabe (2001) postulated that adolescents who were in a state of identity diffusion would have a greater discrepancy between how one's ideal self and one's real self could function in the world. As expected, they did find evidence that adolescents who were in a state of identity diffusion were more likely to have larger discrepancies between how their ideal and actual self could function in the world. Alternatively, they found that adolescents who were able to commit to a set of beliefs and use alternative explanations effectively (Identity Achievement) had a smaller discrepancy between how one's ideal self and real self could function in the world.

Considering that older adolescents generally have more interpersonal experience in dealing with daily stress, it is plausible to conclude that they would be less prone to be in a state of identity diffusion compared to younger adolescents. Therefore, younger adolescents may be in more risk of making cognitive errors about their capabilities.

Essentially, in regards to TAF beliefs, younger adolescents may be more prone to view thoughts and action as inextricably linked.

Elkind's Theory. Elkind (1967) postulated that during their teenage years adolescents will develop an egocentric attitude that accompanies them through the emergence of Piaget's formal operations stage. The key feature of this egocentric attitude is the "embeddedness in one's own point of view or the inability to 'decenter' to other perspectives (Looft & Charles, 1971, p. 21)." Essentially, the inability to "decenter" refers to a process where the adolescent is restricted by an overwhelming sense of interpersonal commitment where he/she is unable to engender alternative points of view to a situation. This inability to "decenter" may condition the adolescent to believe that he/she is indestructible and engender a high sense of personal power and uniqueness (Elkind, 1967).

Consequently, adolescents who experience a sense of indestructibleness and high sense of personal power may attribute more magical tendencies to their beliefs (Ormont, 1969). Specifically, adolescents may be more prone to believe that their thoughts are powerful enough to influence the outcome of certain occurrences. Another product of this high sense of power and indestructibleness is an inflated sense of responsibility. In a sample of community adolescents Wilson and colleagues (1995) noted that adolescents may tend to accept responsibility for situations in which they have no control.

Hudson and Gray (1986) found that egocentrism was more prevalent in younger adolescents who were still moving through the concrete operations stage, while egocentrism was less prevalent in older adolescents who were firmly in the formal operations stage. Due to the products of having egocentric thoughts and the lack of

insight to produce more logical explanations, it is feasible to assume that younger adolescents may engage in more TAF thinking then older adolescents.

Overall, it appears that younger adolescents are more prone to types of cognitive errors like TAF beliefs. However, there is no empirical evidence to date that give any credence to this theory. As a result, a secondary purpose of my study was to examine whether younger adolescents report higher levels of TAF thinking compared to older adolescents.

Purpose

My main purpose in this proposed research was to determine if adolescent development plays an influential role in the onset of TAF beliefs, if any gender differences existed in the development of TAF beliefs, and if TAF beliefs were predictive of other types of psychopathology such as suicidality in adolescents.

Significance

To date, no known researchers have investigated the possibility that developmental factors could contribute to the association between TAF beliefs and types of psychopathology in adolescents. Specifically, developmental factors seen in younger adolescents such as an inflated sense of responsibility, lack of insight, and the development of an individual's identity may contribute to the onset of TAF beliefs. Another purpose in my study was to obtain preliminary evidence that developmental factors play an integral role in the onset of TAF beliefs.

Additionally, in regards to TAF beliefs, no known researchers have determined whether gender differences exist in a sample of American adolescents. According to Berle and Starcevic (2005), it appears that TAF beliefs reflect more of an internalized

appraisal style, therefore enhancing the possibility that females may be more prone to engage in TAF thinking. Therefore, I also proposed in this study to determine if any gender differences exist within a U.S. community adolescent sample.

One of the major topics discussed in the TAF literature is the question regarding specificity. Although Rachman (1993) developed the TAF construct in order to obtain a more comprehensive conceptualization of the onset of OCD, researchers today have found interesting evidence that TAF may be associated with other types of disorders (i.e. other types of anxiety disorders and affective disorders) in both adults and adolescents. Consequently, Shafran and Rachman (2004) suggested that future research should be directed in establishing a relationship between TAF beliefs and other types of psychopathology, in order to obtain a more comprehensive understanding of the effects of TAF thinking. Therefore, in this research, I attempted to determine whether TAF beliefs predicted a significant amount of variance in adolescent suicide behaviors.

This research is important in expanding the TAF literature in regards to adolescent development as related to age, gender, and suicidal proneness. As previously noted, researchers have failed to acknowledge the potential role of development in the onset and/or exacerbation of TAF beliefs. If the results reveal that age plays a significant role in differentiating multiple TAF beliefs, then future researchers would be encouraged to take into account developmental considerations when theorizing about the specific role of TAF beliefs in such psychopathology as obsessive-compulsive symptoms, anxiety, and depression.

Similarly, there is a gap in the TAF literature concerning the role of gender development of TAF beliefs. Specifically, it is not known whether if females are more

prone to TAF thinking then their male counterparts or vise versa. Determining if gender differences exist in TAF thinking is important related to theoretically explaining gender differences in more clinically related constructs (i.e. depression). Moreover, having a testable model that explains gender differences in certain psychological disorders may affect the manner in which clinician's diagnoses and treat their clients.

Lastly, excluding hopelessness and self-efficacy, cognitive variables have fallen short in terms of predicting adolescent suicidality. Orbach and colleagues (1999) charged future researchers to develop and investigate other cognitive constructs that may predict a significant amount of variance in adolescent suicidality. Considering that TAF beliefs are significantly associated with powerful adolescent suicidality predictors (i.e. depression, anxiety, guilt), one might reason that TAF beliefs may be able to predict a significant amount of variance in some forms of adolescent suicidality. If TAF does appear to be a powerful predictor of suicidality in adolescence, then it will provide future researchers with the building blocks to formulate more valid theories about the onset and/or exacerbation of suicidality in adolescence. Additionally, this research may assist clinicians in developing effective prevention and intervention programs to aid in the reduction of suicidal ideation, attempts, and completions in U.S. adolescents.

Definition of Terms

Thought-action fusion. According to Rassin and colleagues (1999), thought-action fusion broadly "refers to the tendency to assume incorrect casual relationships between one's own thoughts and external reality (p. 232)." Thought-action fusion will be measured by the Thought-Action Fusion Questionnaire for Adolescents (TAFQ-A),

which consists 15 items. The TAFQ-A consists of two distinct sub-scales: TAF-Moral beliefs and TAF-Likelihood beliefs (Muris et al., 2001).

TAF-moral beliefs. According to Muris and colleagues (2001), TAF-Moral is characterized by the belief that unacceptable thoughts are equivalent to the associated forbidden actions. Each item is represented in the form of a scenario section and a response section to the scenario. In the scenario section, the participant is asked to visualize himself/herself having a specific thought about a specific stimuli. In the response section, the participant is asked to rate on a scale from one to four (one being not true and four being very true) if having this thought is equal to actually committing the corresponding action. An example of a TAF-Moral belief is when a person equates thinking of swearing in church to actually swearing in church.

TAF-likelihood beliefs. According to Muris and colleagues (2001) TAF-Likelihood is characterized by the belief that thinking of an unacceptable or disturbing event will increase the likelihood of that event actually occurring. Each item is represented in the form of a scenario section and a response section to the scenario. In the scenario section, the participant is asked to visualize himself/herself having a specific thought about a specific stimuli. In the response section, the participant is asked to rate on a scale from one to four (one being not true and four being very true) if having this thought increases the chance of the corresponding action actually occurring. An example of a TAF-Likelihood belief is when thinking about friend getting into a car accident actually increases the chances that friend will be in a car accident.

Suicide proneness. According to Lewinsohn, Langhinrichsen-Rohling, Langford, Rohde, Seeley, and Chapman (1995) suicidal proneness is defined as the engagement in

risk-taking thoughts and behaviors which reflect a person's propensity at a given point to partake in suicidality. Suicidal proneness will be measured by the Life Attitude Schedules-Short Form (Lewinsohn, et al., 1995), which consists of 24 items that identify specific risk factors that contribute to the onset of suicidal thoughts and behaviors. The LAS consists of four relatively distinct content domains in which certain thoughts and behaviors fall. The LAS has four distinct subscales: health-related behaviors, death-related behaviors, injury-related behaviors, and self-related behaviors.

Health-related proneness. The health-related content domain identifies general health questions that have been empirically and theoretically associated with the prediction of suicide. Specifically, the health-related content domains consists of questions that ask about one's lack of self-care ("I don't really care much about what I eat (e.g. fried foods, sugar, etc.).") and one's sense of overall wellness ("I feel good because my activities are meaningful and have purpose.").

Death-related proneness. The death-related content domain identifies questions pertaining to one's death that have been empirically and theoretically associated with the prediction of suicide. Specifically, the death-related content domain consists of questions that ask about one's interest in dying ("Killing myself would solve many of my problems.") and one's perception of his/her longevity in life ("I expect to have a long an interesting life.").

Injury-related proneness. The injury-related content domain identifies questions concerning one's tendency to become injured that have been empirically and theoretically associated with the prediction of suicide. Specifically, the injury-related domain consists of questions that measure one's propensity to engage in risky behaviors ("At least once a

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month, I have driven or have been driven more than 20 miles per hour over the speed limit."), self-injurious behaviors ("Sometimes I feel so frustrated that I would like to hit my fist against the wall (or something that could hurt me)."), and behaviors related to general safety ("I avoid unnecessary risks.").

Self-related proneness. The self-related content domain acknowledges questions pertaining to one's perception of self-concept that have been empirically and theoretically associated to the prediction of suicide. Specifically, the self-related content domain consists of questions that ask about one's self-esteem ("I wish I was someone else."), and self-image ("I believe I am a good person.").

Summary

Overall, there is a need for researchers to investigate the influence of cognitive constructs on the onset of psychopathology. One construct that potentially has the ability to predict a significant amount of variance in adolescent psychopathology is TAF thinking. To date, researchers have identified TAF thinking as influential factor in the onset and exacerbation of obsessive-compulsive symptoms. However, Berle and Starcevic (2005) noted that future research needs to investigate the possibility that TAF thinking may be prevalent in other types of psychopathology in both adults and adolescents. Therefore, in this study, I looked to extend that TAF literature by examining the relationship between TAF thinking styles and various types of suicide behaviors in adolescence. Additionally, I hoped to extend the TAF literature by determining the influence of age and gender on the prevalence of TAF thinking in adolescence.

Research Questions

1) Is there a significant interaction between age and gender in measuring for TAF-Moral and TAF-Likelihood beliefs?

2) Does the combination of the TAF subscale scores predict a significant amount of variance in four different types of suicide behaviors?

Null Hypotheses

1) There is no significant interaction effect between age and gender when measuring for TAF thinking in a community sample of adolescents.

2) The combination of TAF thinking score do not predict a significant amount of variance in four separate measure of suicide proneness.

Expectations

1) There will be a significant interaction effect between age and gender regarding the measurement of both TAF-Moral beliefs and TAF-Likelihood beliefs in a sample of community adolescents.

2) Both TAF Moral thinking and TAF Likelihood thinking will predict a significant amount of variance in various types of suicidal proneness: death-related, health-related, injury-related, and self-related.

CHAPTER II

REVIEW OF LITERATURE

Overview

I used this section to further my discussion on the topic of suicidality and TAF thinking. Specifically, I relayed the underpinnings of suicide in our society. First, I discussed the different types of suicidality that affect individuals in our society, with a specific focus on behaviors that are predictive of suicide completion. I then continued with a thorough review of the overarching conceptual issues in suicide theory. Next, I reviewed suicidality in adolescents with a specific focus on cognitive risk factors. Then I finished my discussion on suicide by conceptualizing, in a more detailed manner, why I believe TAF thinking is a significant risk factor of adolescent suicidal behaviors. Lastly, I discussed the effects of gender and age in both TAF beliefs and adolescent suicidality.

Suicidality and Society.

Researchers from the World Health Organization approximated that suicide attempt rates will continue to increase between 40 to 100 times each year if no effective/reliable suicide intervention is found (Hall, O'Brien, Stark, Pelososi, & Smith, 1998). As a result, completed suicide is the second leading cause of death in adolescents in a majority of the western hemisphere's countries (Weissman, Bland, & Cannino, 1999). In the United States, suicide is the third leading cause of death between the ages of 15 and 19 and is the fourth leading cause of death of children between the ages of 10 and 14 (Centers of Disease Control, 1995; Minino & Smith, 2001). Furthermore, researchers have concluded that 12.2 out of every 100,000 males will die by taking their own life, while only 2.4 out of every 100,000 females will die by taking their own life (National Center for Health Statistics, 2004).

In addition to completed suicide, other forms of suicidality such as suicide attempts (parasuicide) and suicide ideation are prevalent among American adolescents. Approximately, 7% of high school adolescents attempt suicide in a one year period (Centers of Disease Control, 1991). One-third of adolescents who attempt suicide at least once in their life will eventually kill themselves (Lecomte & Fornes, 1998). Similarly, alarming statistics were reported by Grunbaum, Kann, and Kitchen (2002) where they approximated that 19% of American high school adolescents have seriously thought about committing suicide. Even more alarming are the reports of Myers, McCauley, Calderon, and Treder's (1991) longitudinal analysis where they found that suicidal thoughts and gestures were present in 72% of an adolescent depressive sample at one time during the study.

Suicide researchers accentuate the need for future research to develop comprehensive and effective suicide prevention programs. Specifically, identification of cognitive risk and protective factors is an area in adolescent suicidality that needs further investigation.

Suicide Completion

Due to its tragic and permanent nature, suicide has been one of the most researched areas in applied psychology. Despite the numerous empirical and theoretical articles written on suicide, suicide research has been plagued with difficult challenges in obtaining valid and reliable results regarding the conceptualization and the measurement of suicide. One of the more basic difficulties that have been troubling suicide researchers is the inability to clearly discern a well adopted definition of suicide (Berman, Jobes, & Silverman, 2005). Currently, suicide researchers use a wide range of suicidal thoughts,

gestures, and behaviors to define suicide. According to Linehan's (1986) overlapping model, the conglomeration of suicidal thoughts, gestures, and behaviors into one holistic construct of suicide is restrictive, in the sense that one is assuming that suicidal completers, attempters, and ideators experience statistically significant amounts of the same risk factors. If this notion of one holistic construct of suicide is true, then how do researchers explain the findings that only half of first time attempters actually kill themselves (Joiner, 2005) or why the majority of suicidal ideators never attempt suicide (Joiner, 2005)? Apparently, there are significant differences among individuals who commit suicide, those who attempt suicide, and those engage in suicidal ideation. Moreover, suicide prevention and intervention efforts are contingent on the ability of researchers to identify these significant differences.

In attempting to discern suicide completers from other types of suicidal activity, one needs only to compare the methodologies used in accumulating data for suicide completers and other forms of suicidality. While researchers today have been relatively successful in measuring suicidal ideation and attempts through different types of self-report measures, historically researchers, who strived to understand suicide completion, relied on restrictive and biased measures. Specifically, information regarding individuals who successfully committed suicide, in most cases, came from medical examiner's reports, coroner's reports, and/or, if available, suicide notes (Berman et al., 2005). Such data only provides researchers minimal insight into the instability that led a particular individual to kill himself/herself. Moreover, these records are only able to give us demographic data, frequency data, and data that describe specific themes of why a person would kill himself/herself, if an individual left a suicide note (Berman et al., 2005).

Again, these records are restrictive in a sense because they do not lend much information about the onset of suicidal thoughts and behaviors, and what particular risk factors might have played a prominent role in the eventual suicide completion.

Furthermore, Phillips and Ruth (1993) are skeptical of the reliability and validity of medical examiner's and coroner's reports. Specifically, O'Carroll (1989) is particularly concerned about the variation in the way suicides are investigated, determined, and reported in these documents, potentially confounding the little information that we have received from these reports. To make matters worse, most researchers agree that individuals who would supply researchers and clinicians with the most valuable information regarding suicide prevention and intervention efforts are not available for study because they have successfully terminated their lives (Berman et al., 2005).

In order to collect less restrictive and more reliable data from suicide completers, researchers such as Jobes, Berman, and Josselson (1987) have aided in the development of a more psychometrically sound and widely accepted format to obtain data through a method called the psychological autopsy. Berman and colleagues have described the psychological autopsy as:

> "A technique that involves the systematic collection of psychological data through structured interviews of the decedent's family members, friends, coworkers, fellow students, and other associates. Although the specific format may vary, most investigators collect data relevant to the decedent's behavior, personality, style of coping, cognitive processes, psychiatric history, and general emotional

life, so that a rich psychological mosaic of the decedent came be assembled."

(p.85)

The psychological autopsy also utilizes other relevant documents and corroborating

evidence from hospitals and general practice case-notes, social work reports, and criminal

records (Cavanagh, Carson, Sharpe, & Lawrie, 2003). There have been over 150 studies

that have used the psychological autopsy to obtain valuable information about suicide

completion (Cavanagh et al., 2003). In a systematic review of the psychological autopsy

literature, Cavanagh and colleagues (2003) found significant commonalities that appear

to be prevalent in a majority of suicide completions. Approximately 91% of suicide

completers in 154 studies had a mental disorder; 59% had an affective disorder; 66% had

made some type of communication of his/her intent to commit suicide; 39% made

deliberate attempts of self-harm; and 50% had experienced some type of isolation.

Unfortunately, the data gleaned from psychological autopsies cannot give us more

specific information regarding the complex patterns and influences of these risk factors to

help researchers and clinicians better understand suicide completion.

Suicide Ideation and Attempts

In order to obtain data that study the complex influence of risk factors on

suicidality, most researchers conduct studies that replace suicide completion with

measures of suicide attempts or suicide ideation. Measuring for suicidal attempts and

ideation not only provides researchers with more statistical flexibility, it is also provides

them with a means of obtaining more readily available data. In conducting a study using

the psychological autopsy, researchers and IRB boards have to take into consideration

more ethical obstacles than obtaining data using self-report measures for suicidal ideation

and attempt. By measuring for suicidal attempts and/or suicidal ideation researchers are more likely to get their studies through IRB and have less ethical complications with the implementation of specific elements in their methodology (Jobes et al., 1987).

However, researchers need to understand that data obtained from suicidal ideators or attempters may not be generalizable to suicide completers. Furthermore, researchers have provided evidence that suggests that in general suicide completers experience more severe emotional and physical turmoil relative to ideators, attempters, and multiple attempters (Goldston, Daniel, Reboussin, Kelley, Ievers, & Brunstetter, 1996; Hawton, Kingsbury, Steinhardt, James, & Fagg, 1999).

Joiner's Comprehensive Theory of Suicide

Despite the inability to glean complex patterns of risk factors from the data on suicide completers, the suicide researchers have engendered a significant amount of empirically based theories (Baumeister, 1990; Beck, 1996; Linehan, 1993; & Shneidman, 1996) that have often aided clinicians and researchers in the assessment and treatment of suicidality. One specific theory that has generally been considered a viable account of suicide completion is Joiner's (2005) comprehensive theory, which is based upon sociological and psychological elements. The central aspect of Joiner's theory to suicide completion is based on the fear of suicide or death in general (Joiner, 2003). However, it is not fear of suicide that acts as a risk factor to eventual suicide completion, but it is the ability to "beat down the instinct to live" and to become indifferent about death via suicide that is prominent in Joiner's theory (Joiner, 2003). Thus, Joiner (2003, 2005) asserted that in order to be able to commit suicide one has to fight one's most rigid instinct, the desire to survive. However, Joiner stated that the ability to commit suicide is

necessary, but not sufficient for a person to complete suicide. Specifically, Joiner (2003, 2005) asserted that an individual must also want to die.

Joiner (2003) postulated that the wish to die comes from two similar yet important sources: a person's sense of ineffectiveness, therefore perceiving oneself more as a burden to others, and an individual's perception that he/she is disconnected from others on an interpersonal level. Berman and colleagues (2005) highlighted the fact that a majority of suicide completions and attempts "arise from the overlapping and synergistic impact of the acquired ability (desire) for suicide, the perception of being relationally burdensome to others, and a sense of thwarted belongingness, the absence of closeness, to key relationships or groups (p.50)."

Depletion of self-preservation defenses. Joiner (2005) noted that that the most effective protection against suicide completion lies not within psychological, psychosocial, or interpersonal resources but is ingrained within human psychophysiology. The nature of the human survival instinct protects humans against both internal and external threats on one's life (Joiner, 2005). In regards to suicide, the basic survival instinct makes it increasingly difficult for suicidal individuals to engender a substantial painful experience that could lead to a fatal suicide attempt. Unfortunately, Joiner (2005) has noted that determined individuals can suppress this basic survival instinct, putting them in a vulnerable situation in which the individual is more prone to make lethal suicide attempts generally resulting in death. According to Joiner (2005), in order to suppress the survival instinct individuals have to become fearless regarding the act of suicide and have significantly reduced levels of pain tolerance.

Researchers have continuously asked how do individuals develop a sense of indifference towards killing themselves (Beck, 1996; Beck, Brown, Steer, Dahlsgaard, & Grisham, 1999; Cheng, Chen, Chen, & Jenkins, 2000; Joiner & Rudd, 2000; Joiner, Conwell, Fitzpatrick, Witte, Schmidt, Berlim, Fleck, Rudd, 2005; Lewinsohn, Rohde, & Seeley, 1996). Tragically, most researchers agree with Beck (1996) in that the answer lies within "practice." Beck believes that in order to ward off our protecting factors against suicide, individuals need to stave off this "taboo" that makes us fearful of the negative consequences of a completed suicide. He conceded that habituation through frequent exposure to suicidal thoughts, gestures, and behaviors are the most effective means in warding off our biological defense of self-preservation. Moreover, suicide researchers in the last decade have found evidence that speaks to the validation of Beck's theory on suicide completion. Specifically, in a study utilizing the psychological autopsy, Cheng and colleagues (2000) found that individuals who committed suicide had significantly more suicidal attempts compared to a matched controlled sample.

Furthermore, Cheng and his colleagues (2000) concluded that previous suicide attempts appear to be a significant factor in eventual suicide completion. However, as previously noted the psychological autopsy offers restricted information and does not speak to interaction of psychological factors that may have an impact on the suicidal individual. As a result, Joiner and colleagues (2005) analyzed the relationship between current suicidality (i.e. ideation and behaviors) and number of suicide attempts while covarying for a number of powerful predictors of suicidal activity (i.e. sex, age, race, marital status, family history of suicide, depression, bipolar disorder, alcohol abuse, legal history, hopelessness, problem solving abilities, borderline personality disorder

symptoms, and negative life events) in a sample young adults with severe difficulties

with suicidal symptoms. Their results indicated that the covariance of a great number of

powerful suicide related variables had an insignificant effect on the relationship between

current suicidality and number of suicide attempts. Furthermore, in a series of other

studies with diverse samples, researchers found empirical evidence that suicide ideation

is associated with previous suicide attempts (Joiner & Rudd, 2000), future suicide

attempts (Lewinsohn, Rohde, and Seeley, 1996), and future suicide completion (Beck et

al., 1999).

Although suicide ideation and attempts appear to be powerful predictors in

depleting ones defenses in regards to self-preservation, two other destructive behaviors

have been well researched in their association with suicidal completions. One particular

destructive behavior that appears to predict suicide is substance abuse (Berman &

Schwartz, 1990; Crumley, 1990; Hawton, Fagg, Platt, & Hawkins, 1993; Lester, 2000;

Mehlenbeck, Spirito, Barnett, & Overholser, 2003; Runeson, 1990; Schaffer, Gould,

Fisher, Trautman, Moreau, Klienman, & Flory, 1996).

Crumley (1990) found, in a study of suicidal adolescents, that an increase of

substance abuse was positively related to an increase in incidence, repetitiveness,

seriousness of intent, and lethality of suicide attempts. Other studies using a sample of

adolescents who completed suicide found that substance abuse is not only related to

suicide completion but is a strong predictor as well (Schaffer et al., 1996). Moreover,

researchers have concluded that 20-50% of adolescents who have completed suicide used

some type of substance six hours before the final attempt (Hawton et al., 1993; Runeson,

1990). Furthermore, Berman and Schwartz (1990) found that a high intent of hurting

oneself and a strong desire to commit suicide were significantly exacerbated by the onset

of drug abuse, with 78% of suicide attempts occurring after drug use began in a sample of

suicidal adolescents.

Berman and Schwartz's (1990) findings highlight key aspects of Lester's (2000)

theory which states that suicidal individuals use substances to obtain an alternative state

of mind that is more conducive to a lethal suicide attempt. Mehlenbeck and colleagues

(2003) elaborated on Lester's theory by stating that individuals under the influence of

alcohol or some other substance are likely to engender a less inhibited manner, therefore

creating a state that optimizes more impulsive and irresponsible behavior. By creating a

disinhibited state of mind due to the excessive use of drugs and/or alcohol one is

diminishing the ability to think clearly about the consequences of his/her actions,

therefore leaving one's defenses for self-preservation weakened and vulnerable to a lethal

suicidal attempt.

Another sub-group who theoretically are more prone to deplete self-preservation

defenses is self-mutilators (Guertin, Lloyd, Spirito, Donaldson, & Boergers, 2003;

Pattison & Kahan, 1983; Suyemoto, 1998; Zlotnick, Donaldson, Spirito, & Pearlstein,

1997). DiFilippo, Esposito, Overholser, and Spirito (2003) generally described methods

of self-mutilation as "low lethality, with physical damage ranging from the superficial to

moderate (p. 251)." Suicide research has only provided one study that has looked at self-

mutilation and suicide completion in a younger sample. In a systematic review of the

psychological autopsy, Appleby, Cooper, Amos, and Faragher (1999) found that two-

thirds of their sample had a history of some form of mutilation. Similar results have been

found in studies looking at suicide attempts and ideation (Guertin et al., 2003; Zlotnick et

al., 1997). In comparison with a non-clinical sample of adolescents, Guertin and colleagues (2003) found that 55% of a sample of clinical adolescent suicide attempters had a history of self-mutilation far superior then the non-clinical sample. Overall, it appears that most suicide attempters have difficulties with some form of self-mutilation (i.e. cutting themselves and/or picking at previous wounds) (Suyemoto, 1998).

Researchers have also found that self-mutilation is a self-destructive behavior that is highly repetitive (Di Filippo et al., 2003). Consequently, adolescents who have had significant difficulties with suicidality often reported multiple self-mutilation experiences that range from two to a hundred times per month (Pattisan & Kahan, 1983). These findings are troubling especially when taking into consideration how self-mutilation affects pain tolerance in suicidal individuals.

Considering that more lethal attempts of suicide (i.e. gun shot, hanging, jumping from tall heights) involve a significant amount of physical pain, researchers such as Orbach and colleagues (2001) have sought to determine if suicidal individuals have a higher tolerance for physical pain. As it turns out, Orbach and his colleagues found empirical evidence that suicidal individuals do have a higher tolerance for pain compared to a non-suicidal group. Moreover, Orbach and colleagues (2001) discerned two types of suicidal adolescents and found that adolescents who survived more lethal attempts, as compared to those who survived less lethal attempts, were able to endure more painful shocks, and in general perceived the stronger shocks as less painful. Researchers such as Orbach, Mikulincer, King, Cohen, and Stein (1997) asserted that self-destructive behavior such as self-mutilation may mediate the relationship between a high pain tolerance and suicidal attempts in adolescence. Furthermore, Furman (1984) asserted that

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such physical violence towards the body extracts one's sense of bodily self-love, which she proposes acts as a shield to ward off self-destruction. As such, it appears that the repetitious aspect of self-mutilation provides suicidal adolescents with an effective method of reducing their defenses of self-preservation.

Although substance abuse and self-mutilation are conceptually different, when looking at suicidal adolescents, Baumeister (1990) argues they share some common components that help explain why suicidal individuals turn to such hazardous means of dealing with distress. Baumeister (1990) contended that suicidal adolescents choose to engage in substance abuse and self-manipulation to escape the self. Furthermore, this component of escaping is theoretically one of the major contributors to the repetitiveness aspect of substance abuse and self-mutilation (Baumeister, 1990).

Suicidal individuals generally experience severe amounts of depression, hopelessness, and helplessness (Beck, Brown, & Steer, 1989). As a result, these individuals choose coping strategies that will alleviate the overwhelming amount of intrapsychic pain immediately (Baumeister, 1990). Generally, these individuals will try to suppress painful feelings, emotions, and thoughts by escaping into a state of cognitive deconstruction (Baumiester, 1990). This state of cognitive deconstruction is characterized by feelings of dissociation, numbness, and heightened sensation thresholds (Orbach, 1994). Although escapement into cognitive deconstruction is ineffective in the long run, it provides minimal immediate alleviation of these painful emotional symptoms in the short run (Williams, 1996). Unfortunately, the suppression of the negative symptoms provided by escapement into cognitive deconstruction becomes habitual in suicidal individuals, therefore increasing more dissociation, numbness, and heightened thresholds

(Baumeister, 1990). As previously noted, higher thresholds for pain and continuation in altered mood states increases the risk for more impulsive behaviors and reduces the fear of physical pain, therefore leaving an individual more prone to make a fatal suicide attempt. Overall, having a history of suicidal thoughts and behaviors, along with engaging in substance abuse and self-mutilation appears to deplete individuals of their instinctual nature to preserve the self.

Thwarted connectedness. Although it appears that the ability to commit suicide is necessary in actually completing an attempt, Joiner (2005) contends that the ability to suppress self-preservation defenses alone is not sufficient to complete an attempt. Joiner asserted, in his theory of completed suicide, that the individual who has the ability to die and the desire to die is the most vulnerable to complete a suicide attempt. Many researchers have undertaken the journey to understand human motivation, especially motivations that result in tragedy. In Joiner's extensive research on suicidology, he contends that two basic needs play an integral role in one's motivation to terminate his/her life.

Joiner (2005) asserted that the motivation to die is perpetuated by one's psychological deprivation of connecting or affiliating with other individuals in meaningful relationships. The need to belong is a well developed construct and, in some cases, a key component in many theories of psychology. For instance, Freud (1930) asserted that the need to belong was a critical variable in understanding the sex drive and the filial bond. Moreover, Maslow (1968), in his hierarchy of needs, theorized that the need to be loved and to belong was an essential step in the process to obtain self-actualization. Although not obtained through the works of Freud and Maslow, the

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construct of the need to belong has been empirically validated by a multitude of researchers (i.e. Epstein, 1992; Hogan, 1983; Ryan, 1991).

In terms of clinical value, the need to belong appears to be a highly powerful construct that exerts significant influence over emotional patterns and cognitive processes (Baumeister & Leary, 1990). Consequently, if the need to be interpersonally connected is not satisfied, then it is likely to contribute to the onset or exacerbation of negative effects on health, adjustment, and well-being (Baumeister & Leary, 1990). Evidence of the later hypothesis can clearly been seen in research on completed suicide, suicidal attempts, and suicidal ideation. Regarding suicidal completion, Cavanagh and colleagues (2003), in a systematic review of psychological autopsies, found that approximately 50% (confidence intervals range from 22%-84%) of suicide completers had reported difficulties with social isolation. Additionally, in a review of the themes in adult suicidal notes, Foster (2003) found that a significant amount of the notes highlighted loneliness as an influencing factor in the completed suicide. Furthermore, in a study of adolescents and young adult suicide notes, Leenaars (1988) discovered that adolescent and younger adult suicide notes placed a heavier emphasis on dysfunctional interpersonal relationships than did the adult suicide notes. However, due to the inability of certain methodological instruments in obtaining information from suicide completers, researchers have been restricted in determining if social isolation is a significant predictor of completed suicide over and above a number of other powerful correlates of suicide completion. Therefore, researchers have tried to determine if social isolation is a significant predictor of other suicidal activities such as attempts and ideation.

There has been a vast amount of researchers that have concluded that social isolation (Groholt, Ekeberg, Wichstrom, & Haldorson, 2000; Negron, Piacentini, Graae, Davies, & Schaffer, 1997), loneliness (Roberts, Roberts, & Chen, 1998, Rossow & Wichstrom, 1994), and alienation (Kopper, Osman, Osman, & Hoffman, 1998) are significant risk factors of adolescent suicidal attempts and ideation. In a study of adolescent suicide attempters, Spirito, Stark, and Williams (1988) asserted that attempters used more social withdrawal compared to distressed and non-distressed controls when trying to cope with overwhelming stress. This finding was validated in Groholt and colleague's (2000) study, where they found that community and inpatient samples of adolescents with a previous history of suicidal attempts rarely relied on support from others when attempting to manage neural and stressful situations. It appears that adolescents who engage in riskier suicidal behaviors (i.e. attempts) compared to moderate suicidal activity (i.e. ideation) experience greater feelings of withdrawal and alienation (Negron et al., 1997). Lastly, alienation, a general feeling of being misunderstood and unloved by others, appears to be highly powerful in predicting suicide probability scores (Kopper et al., 1998). Kopper and colleagues (1998) found that alienation scores (especially in male adolescents) predicted a significant amount of variance in suicide potential scores while controlling for highly powerful predictors of suicide such as depression, hypomania, and psychopathic deviate scores on the MMPI-A.

Thwarted effectiveness. The second psychological state that Joiner (2005) emphasized in a strong desire to die is the perception that one is not effective in relationships. Joiner (2005) coined the term thwarted effectiveness to characterize the perception that one is a burden towards others. Moreover, for individuals who are having

difficulties with suicidal thoughts or behaviors, Joiner (2005) contended that the

perception of seeing oneself as a burden who negatively affects others is highly

associated with suicide. It is important to note that the thwarted effectiveness is based off

an individuals perception that his/her roles in relationships are meaningless, causing

others additional grief or frustration. Furthermore, these individuals with high levels of

perceived ineffectiveness often describe their suicide attempts as altruistic (Durkhiem,

1897). According to Durkhiem (1897), when individuals become so intertwined within a

social group that their individuality begins to fade, they become more willing to sacrifice

themselves for the benefit of the group. Joiner (2005) elaborates on the relationship

between burdensomeness and altruistic suicide by asserting that some suicidal individuals

believe that his/her self-sacrifice will bring about less distress for the group then his/her

death.

Unlike the vast amount of research on thwarted connectedness/belongingness, the

research on burdensomeness or ineffectiveness is quite scant. However, there are a few

studies that have reported empirical evidence that a sense of burdensomeness towards

others is a significant influence in one's decision to kill themselves (Brown, Dahlen,

Mills, Rick, & Biblarz, 1999; Foster, 2003; Joiner, Petitt, Walker, Voelz, Cruz, Rudd, &

Lester, 2002). To date, there have been only two studies that have associated perceived

burdensomeness to actual completed suicide (Foster, 2003; Joiner et al., 2002). In a study

examining themes of suicide notes, Foster (2003) discovered that a burdensome theme

was explicitly present in about 7% of the suicide notes. However, perceived

burdensomeness has been theoretically linked to feelings of shame for committing

suicide (Joiner, 2005), which was in 74% of the suicide notes examined by Foster (2003).

As a result, it is conceivable that a majority of the variance in the suicide notes with a shame theme could be accounted for by feelings of ineffectiveness or burdensomeness towards others.

Despite the unclear effect of burdensomeness or ineffectiveness has on completed suicide (as examined by Foster, 2003), Joiner and colleagues (2002) hypothesized that perceived burdensomeness would be a strong correlate of completed status by analyzing a different set of suicide notes. Joiner and colleagues (2002) allowed three raters to exam 40 suicide notes (20 from completers and 20 from attempters). Each rater was asked to appraise the suicide notes on five specific influences (burdensomeness, emotional regulation, control of other people, emotional pain, and hopelessness) that could have contributed to the completed suicide. After controlling for the effects of age and gender, the results indicated that burdensomeness was the only significant correlate of completer status. Furthermore, Joiner and colleagues also found that burdensomeness was the only factor correlated with lethality of suicide attempts. Both Foster (2003) and Joiner and colleagues (2003) concluded that perceive burdensomeness appears to be a potential influence that affects what method one chooses to kill himself/herself and if one actually completes a suicide attempt. However, Joiner and colleagues (2002) note that replication of these results are necessary in determining the validation of his theory on the role of perceived burdensomeness of completed suicide.

Overall, Joiner (2005) contended that completed suicides are characterized by one's ability to go through with the act by suppressing one's self preservation defenses and by a strong desire to die (i.e. high levels of isolation, alienation, ineffectiveness, and burdensomeness on others). Moreover, Joiner (2005) noted that in combination his

constructs engender a highly vulnerable situation, where individuals are likely to act on

his/her suicidal tendencies. However, Joiner conceded that no matter how comprehensive

his theory may be perceived, it cannot account for the complete variance in completed

suicide. Therefore, other researchers should continue to test their own theories, in hopes

that they can account for the variance in suicide completion that is not accountable by

Joiner's (2005) theory.

Suicide Proneness

In addition to suicide completion, attempts, and ideation; suicide researchers have

uncovered other suicidal constructs such as suicidal proneness (Lewinsohn et al., 1995).

Lewinsohn and colleagues (1995) found that there is a specific domain of behaviors that

are life-threatening and that foster maladaptive thoughts that contribute to onset of

suicidality in adolescence. Specifically, such behaviors as listening to music with a death

related theme, not wearing one's seat belt, and driving at excess speeds over the speed

limit were highly correlated with intentionally hurting oneself and life time suicide

attempts (Lewinsohn et al., 1995). Furthermore, Lewinsohn and colleagues (1995)

believe that these specific life-threatening behaviors are most advantageous in predicting

suicide completers, attempters, and ideators. Specifically, Lewinsohn and colleagues

identified four domains (death-related, health-related, injury-related, and self-related) of

thoughts and behavior that increase the likelihood of future suicidality.

Death-related proneness. Of all the correlates of suicide, the most predictive of

future suicide completion and attempts is having a previous history of suicidal behavior

(Joiner et al., 2005). According to Lecomte and Fornes (1998) one-third of individuals

who attempt suicide will eventually die from a completed suicide. Joiner (2005) asserted

that previous suicide behavior (especially suicide attempts) increases the likelihood that individuals will re-attempt and/or complete an attempt in the near future. Beck (1996) postulated that repeated exposure to suicidal thinking and behavior reduces the "taboo" or prohibited aspects regarding suicide attempts. Essentially, one begins to view suicide as a more viable option after exposing himself/herself to more suicidal thinking and/or behavior.

Additionally, Joiner (2005) supplemented Beck's theory by postulating that some types of suicidal behavior physically make individuals more vulnerable to re-attempts and completion. Specifically, Joiner asserted that painful (either physical or emotional) experiences that result in suicidality increases the likelihood of future suicide behavior by lowering an individual's tolerance to pain. According to Orbach, Palgi, Stein, Har-Even, Lottem-Peleg, Asherov, and Eljzur (2001), individuals who reported higher suicidal scores also reported a lower pain tolerance. A lower pain tolerance is important in suicide attempts and completions because it reduces the body's self-defenses against internal and/or external threats (Joiner, 2005). As a result, individuals with a previous history of suicidality may physically find it easier to inflict enough pain upon themselves to cause death.

Health-related proneness. In addition to behaviors associated directly with suicide attempts, numerous other researchers (Brenner, Hassan, & Barrios, 1999; Burge, Felts, Chenier, & Parrillo, 1995; Garrison, McKeown, Valois, & Vincent, 1993; Husler, Blakeney, & Werlen, 2005; Kissinger, Fuller, Clark, & Abdalian, 1997; Massie, Gagnon, & Holland, 1994; Menninger, 1936; Narring, Miauton, & Michaud, 2003) provided evidence that adolescents who are prone to or engage in risky health behaviors are more

likely to experience some type of suicidality in the future. Such health risk behaviors include drug and alcohol abuse, risky sexual behavior, physical fighting, smoking, contracting HIV, cancer, other chronic conditions, and having multiple surgeries.

For instance, Brenner and colleagues (1999) found that adolescents who engaged in heavy alcohol abuse, drug abuse, and smoking were more prone to engage in suicidal ideation. According to Lester (2000), these risk health risk factors lower ones inhibitions, which is a very conducive state for suicide attempts to occur. Specifically, Lester noted that when adolescents are high or drunk they are more likely to engage in impulsive acts, which have been historically associated with suicide attempts (Kingsbury, Hawton, Steinhardt, & James, 1999). Additionally, Joiner (2005) also noted that while under the influence of drugs and/or alcohol, it is likely that one's self-defenses against physical pain will be reduce, therefore, creating an optimal situation for some form of suicidal behavior to occur.

Garrison and colleagues (1993) found that adolescents who engaged in more violent behavior were more prone to engage in suicidality. For instance, Garrison and colleagues found that adolescents who were involved in more physical fights were prone to engage in suicide ideation. Pfeffer, Newcorn, Kaplan, Mizruchi, and Plutchik (1988) hypothesized that such violent behavior in suicidal individuals is attributable to a psychiatric diagnosis. Similarly, Sternberg, Lamb, Guterman, and Abbot (2006) noted that aggressive behavior could be a reflection of negative affect or a dysfunctional family life that could increase the likelihood of suicide symptomology. Moreover, physical fighting is another means of lowering one's tolerance for pain, which according to Orbach (2001) and colleagues may be indicative of future suicidal behavior.

Lastly, it appears that adolescents who are exposed to some physical illness or virus maybe more at risk to engage in suicide behaviors (Kissinger et al., 1997; Massie et al., 1994). Specifically, adolescents who suffer from a diagnosis of cancer or other chronic diagnoses (i.e. diabetes, asthma, heart disease) are likely to experience more suicidal symptoms (Narring, et al., 2003). According to Massie and colleagues (1994), adolescents who experience these chronic conditions may be more prone to severe bouts of depression and/or isolation which may result in a suicide attempt or completion. Furthermore, these individuals are exposed to multiple medical treatments that might include powerful side effects and frequent surgeries. According to Baumeister (1990) these individuals may view suicide as an escape from the physical pain and suffering brought on by their symptoms and/or medical treatment. Additionally, since these individuals experience serve amounts of emotional and physical pain, they may have already established the optimal pain tolerance to actually attempt and complete suicide (Joiner, 2005).

Injury-related proneness. Over the last few decades, there has been a substantial debate about whether self-injurious behaviors should be considered serious attempts of taking one's life (O'Carroll et al., 1996). However, Favazza (1996) has concluded that self-injurious behaviors are quite distinct from suicide attempts. Specifically, Favazza and Rosenthal (1993) and Favazza (1996) empirically determined that self-injurious behaviors were distinctly different from suicide attempts in terms of lethality, intent, cognition, and general behavior characteristics. However, other researchers (i.e. Guertin, Lloyd, Spirito, Donaldson, & Boergers, 2003; Pattison & Kahan, 1983; Suyemoto, 1998;

Zlotnick, Donaldson, Spirito, & Pearlstein, 1997) concluded that self-injurious behavior (or self-mutilation) is a powerful correlate and/or predictor of adolescent suicidality.

According to DiFilippo, Esposito, Overholser, and Spirito (2003), self-injurious behaviors can describe a wide range of activities in adolescents. Most commonly, Favazza and Conterio (1989) noted that adolescents engage skin cutting, skin burning, and self-hitting. Moreover, Pattisian and Kahn (1983) asserted that once adolescents engage in self-injurious behavior there is a 63% that they will continue to injury themselves (anywhere from 2 to 100 times per month). Lastly, DiFilippo noted that escape from emotional pain was the main reason provided by adolescents for frequent self-injurious behavior. As a result, it appears that adolescents negatively rewarded (removal of emotional pain) themselves through self-injury. Such behavior is particularly concerning because it engenders frequent use self-injurious behavior as a viable coping strategy to relieve emotional distress and pain.

Unfortunately, using self-injury as a coping response to distress is only a minimally and temporarily effective strategy in reducing emotional pain. Baumeister (1990) noted that such behaviors continually suppress emotional pain, until the individual reaches a state of deconstruction. Baumeister noted that a key characteristic of deconstruction is a heighten state of numbness. In this state of numbness, Baumeister postulated that individuals would become more susceptible to suicidal thinking and attempts. Particularly, Baumeister noted that the state of numbness allowed individuals to inflict more pain upon themselves, therefore reducing the body's self-defense mechanism to protect against internal threats.

Self-related proneness. Lastly, Lewinsohn and colleagues (1994) asserted that negative self-evaluation was another psychological construct that is highly predictive of future suicidal attempts and completions. Specifically, seeing the self as inferior to others (Neuringer, 1974), perceiving oneself as having no unique qualities (Joiner et al., 2002, and experiencing frequent feelings of worthless (Williams, Crane, Barnhofer, Van der Does, & Segal, 2006) have been found to be highly associated with suicidal intent, ideation, and attempts. According to Joiner (2005), negative self-evaluations increase thwarted connectedness and effectiveness, which in turn exacerbates the desire to die.

Joiner and colleagues (2002) postulated that after examining the content of 40 suicide notes that feelings of ineffectiveness would appear to be a significant risk factor of suicidality. As expected, Joiner and colleagues (2002) found that thwarted ineffectiveness was the only significant predictor of completer status. As a result, Joiner and colleagues concluded that in order to successfully prevent future suicide behavior clinicians would have address feeling of ineffectiveness in significant relationships. Additionally, Joiner and colleagues recommend that instilling positive self-beliefs was the primary means of reducing thwarted ineffectiveness.

Secondly, Joiner (2005) noted that negative self-evaluations or beliefs are highly associated with feelings of isolation and withdrawal. Moreover, feelings of social isolation and withdrawal have been consistently associated with suicidality (Groholt, Ekeberg, Wichstrom, & Haldorson, 2000; Negron, Piacentini, Graae, Davies, & Schaffer, 1997). Joiner (2005) noted that emotional pain and suffering are likely products of not being able to connect with other individuals. Thus, if the emotional pain continues to intensify, individuals may turn to suicide as a means to escape (Baumeister, 1990).

Adolescent Suicidality

Considering how much research has been conducted on the study of suicidology, researchers and clinicians know relatively little about specific suicide processes in adolescence (Wagner & Zimmerman, 2006). Cleary, this lack of knowledge about suicide processes in adolescence is due to developmental considerations. Specifically, researchers do not have a firm grasp on what types of developmental issues influence the onset of suicidal symptoms. However, Wagner and Zimmerman (2006) have compiled a significant amount of research in order to address developmental issues that appear prevalent within adolescent suicidality.

According to Cicchetti and Toth (1995), adolescent development can be understood as a series of reorganizations at increasingly higher levels of complexity and differentiation (Wagner & Zimmerman, 2006). Additionally, adolescence is marked by rapid reorganizations in biological, emotional, and cognitive domains. In the interest of this study, I focused on the cognitive aspects of development and its association with suicidality.

In early adolescence, teenagers begin to experiment with their new cognitive abilities (i.e. abstract thought) (Wagner & Zimmerman, 2006). Specifically, teenagers begin to analyze their thoughts processes. By examining their thought processes, adolescents are likely to become aware of contradictions in their self-conceptions. The process of identifying contradictions in their self-conceptualization can engender a significant amount of stress and emotional turmoil (Harter, 1999). Consequently, adolescents will attempt to cope with this stress and emotional turmoil by "projecting hypothetical scenarios into the future, they reanalyze the past, they compare their real

selves (and others' selves) to ideal selves (Wagner & Zimmerman, 2006, p. 290)." Such reflection upon thoughts and perceptions eventually leads adolescents through the formal operations stage of development and into adulthood.

According to Damon and Hart (1982), these advanced levels of cognitive processing skills can also negatively affect the emotional stability of adolescents. Specifically, adolescents could catastrophize about future events (Leitenberg, Yost, & Carroll-Wilson, 1986), ruminate about past mistakes and wrong-doings (Klimes-Dougan, Free, Ronsaville, Stilwell, Welsh, & Radke-Yarrow, 1999), and experience a high level of self-discrepancy (continually comparing one's real self to the standards of one's ideal self) (Higgins, 1987). Consequently, such maladaptive responses (catastrophizing, rumination, and high levels of self-discrepancy) have been theoretically associated with suicidality in adolescents.

Another type of developmental construct that appears to be prevalent in adolescent suicidality is cognitive self-regulation of emotion and behavior (Wagner & Zimmerman, 2006). According to Hathaway and Barkley (2003), behavioral inhibition or regulation is comprised of three distinct processes:

"(1) the capacity to inhibit prepotent responses creating a delay in the response to an event, (2) the capacity to interrupt ongoing response chains, (3) and the protection of this delay in responding, the self-directed actions occurring within it, and the goal directed behaviors they create from interference by competing events and the prepotent responses they might trigger." (p.102).

Additionally, Barkley (1997) noted that behavioral regulation or inhibition also involves regulation of powerful emotions. Specifically, Barkley (1997) postulated that powerful

emotions, if held unchecked, can exert a significant amount of undue influence on behavioral responses.

According to Dahl (as cited in Wagner & Zimmerman, 2006), cognitive self-regulation appears to be especially prevalent in the period between early and mid-adolescence. Specifically, Dahl noted that "the timing of increases in risk taking behavior and emotional intensity are linked to the timing of puberty (Wagner & Zimmerman, 2006, p. 291)." Moreover, within this period between early and mid-adolescence, Dahl believes that "adolescents are more prone to experiencing biologically driven, affect laden motivations before they have the cognitive wherewithal to cope with them and so are prone to making poor, risky choices (Wagner & Zimmerman, 2006, p. 291)." Consequently, if an adolescent continues to frequently make poor and risky choices, he/she is more prone to have lower levels or self-esteem and self-efficacy in decision making skills. In turn, lower levels of self-esteem and self-efficacy may contribute to the onset of suicidal thoughts and behaviors. Overall, it is important for adolescent suicide researchers to be competent in adolescent development, in order to establish valid and reliable prevention and intervention programs in treating suicide symptomology.

Prevention and Intervention Efforts

Researchers have focused on developing therapeutic interventions and preventative measures in hopes of decreasing the suicide rates among children and adolescents. As reported by Donaldson, Spirito, and Overholser (2003), the literature on suicide interventions is considerably small relative to the numerous children and adolescents who engage in suicidal thoughts and behaviors. Donaldson and colleagues (2003) rationalized that this lack of research is due to the complex question of whether to

develop a program or technique that treats the underlying diagnostic condition or a program or technique that addresses the suicidal behavior directly. Although treatment of the underlying disorder appears to be essential to the reduction of suicidal behavior, it alone is insufficient and does not emerge as a viable option in the elimination of suicidal behavior in children and adolescents (Harrington, Kerfoot, Dyer, McNiven, Gill, Harrington, & Woodham, 1998). Therefore, as recommended by Donaldson and colleagues (2003), the primary focus of suicide researchers should revolve around testing the efficacy of the programs that have been designed to directly address suicidal behavior.

In reviewing the outcome studies of suicide in adolescents, Donaldson and colleagues (2003) differentiated between the nonrandomized and randomized trials. Results of the nonrandomized trial initially appeared encouraging. Donaldson and colleagues found several studies that appeared to reduce not only suicidal behavior but specific risk factors as hopelessness (Phillay & Waasenaar, 1995), psychiatric symptoms (Phillay & Waasenaar, 1995), and negative affect (Ross & Motto, 1984), while also developing more cognitive skills such as impulse management (Ross & Motto, 1984), family and peer relationships (Ross & Motto, 1984) problem solving skills (McLeavey, Daly, Ludgate, & Murray, 1994), and coping skills (McLeavey, Daly, Ludgate, & Murray, 1994). Additionally, the effectiveness of each program did not appear to be affected by the type of theoretical approach (i.e. cognitive-behavioral, psychodynamic, and existentialistic) implemented. Such results suggest that treatment based on a wide variety of theories would be equally efficacious in treating suicidal behavior.

Despite the initial success of the nonrandomized trials in reducing suicidal behavior, Donaldson and colleagues (2003) reported that the results of the three randomized trials appear less convincing. The randomized trials are a better indicator of treatment effects because they control for nuisance variables (i.e. spontaneous remission and placebo effects). Of the three trials (Controve, Zirinsky, Black, & Weston, 1995; Harrington, Kerfoot, Dyer, McNiven, Gill, Harrington, & Woodham, 1998; Rudd, Rajab, Orman, Stulman, Joiner, & Dixon, 1996) none produced significant results that speak to the efficacious nature of reducing suicidal behavior. Such results confound the findings in the nonrandomized trials and increase the need to search for new and innovative ways to empirically validate programs that withstand stringent statistical analyses. Moreover, a lack of an empirically validated treatment program for suicidal adolescents can exacerbate the anxiety experienced by the mental health professional working with the adolescent and impede the development of effective guidelines in this particular area (Donaldson et al., 2003).

Such difficulties with empirically validating a treatment program for suicidal adolescents have encouraged researchers to look at other means of reducing the prevalence rates of suicidal behavior in adolescents. One such mean is to focus on the risk factors that leave the adolescent vulnerable to engage in suicidal thoughts or behaviors, in hopes that the identification of these risk factors will help school teachers, parents, and mental health professional prevent suicidality. As a result, researchers have identified numerous amounts of demographic, social, behavioral, cognitive, mood, and personality variables that are highly associated with suicide behavior in adolescents. Specifically, researchers have identified sex (Adcock, Nagy, & Simpson, 1991), age

(Kessler, Borges, & Walters, 1999), geographic location (Centers of Disease Control, 2002), ethnicity (Feldman & Wilson, 1997), quality of peer relationships (DiFilippo & Overholser, 2000), loneliness (Robert, Roberts, & Chen, 1998), isolation (Groholt, Ekberg, Wichstrom, & Ealdormen, 2000), substance abuse history (Wagner, Cole, & Schwartzman, 1996), a prior history of suicidal behavior (Wichstrom, 2000), hopelessness (Boergers, Spirito, & Donaldson, 1998), problem solving abilities (Spirito, Brown, Overholser, & Fritz, 1989), coping skills (Rhode, Seeley, & Mace, 1997), depression (Dori & Overholser, 1999), anger (Boergers, Spirito, & Donaldson, 1998), anxiety (Stein, Apter, Ratzoni, Har-Even, & Avidan, 1998), perfectionism (Enns, Cox, & Inayatulla, 2003), impulsivity (Beautrais, Joyce, & Mulder, 1999), and neuroticism (Enns, Cox, & Inayatulla, 2003) as risk factors of adolescent suicidality.

Cognitive Risk Factors of Adolescent Suicide

Silverman and Maris (1995) noted that suicidal acts are multifactorial events that are composed of different types of expressions. For instance some expressions of suicidal acts may be behavioral (i.e. cutting oneself), affective (i.e. persistent crying and/or sadness) or cognitive (i.e. negative thoughts about oneself and one's future). Of the three types of expressions, researchers know relatively very little of the cognitive components that influence the onset and/or exacerbation of suicidal symptoms, especially in adolescents. However, due to the continuous work of Beck and his followers, there has been an influx of researchers who are attempting to identify and conceptualize the role of specific cognitive vulnerability factors in depression and suicidality.

As of today, researchers have garnered a significant amount of empirical evidence that speaks to the positive relationship between cognitive risk factors and suicide.

Specifically, researchers have noted that self-efficacy (i.e. Dieserud, Roysamb, Ekeberg, & Kraft, 2001), hopelessness (i.e. Kazdin, French, Unis, Esveldt-Dawson, & Sherick, 1983), coping strategies (i.e. Rhode, Seeley, & Mace, 1997), problem irresolvability (i.e. Orbach et al., 1999), and problem solving strategies (i.e. D'Zurilla, Chang, Nottingham, & Faccini, 1998) all have significant positive associations with a wide range of suicide thinking and behaviors. However, some researchers have asserted that "so-called" cognitive constructs such as coping skills and problem solving strategies are actually composed of a number on non-cognitive elements. For instance, Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman (2000) noted that coping strategies can be cognitive, behavioral, and/or physiological, and therefore should not be identified as "true" cognitive constructs. As a result, it appears that self-efficacy and hopelessness are the only "pure" cognitive constructs that researchers have identified as risk factors to suicidality.

Hopelessness. According to Melges and Bowlby (1969) hopelessness is defined as a lowered expectation of achieving specific goals combined with negative beliefs about the likelihood of success (Dori & Overholser, 1999). Moreover, hopelessness is accompanied by feelings of personal futility about the future, loss of motivation, and future assumptions that one is destined to fail, continue to suffer, or encounter negative consequences (Beck, Weissman, Lester, & Trexler, 1974; Dori & Overholser, 1999; Melges & Bowlby, 1969; Spirito, Brown, Overholser, & Fritz, 1989). Consequently, Beck, Kovacs, and Weissman (1975) hypothesized that hopelessness would be a powerful correlate of suicidal behavior.

As a result of Beck and colleagues hypothesis, there has been extensive investigations of the positive association between hopelessness and suicide (Asarnow & Guthrie, 1989; Asarnow, Carlson, & Guthrie, 1987; Beck, Brown, & Steer, 1990; Beck et al., 1975; Bedrosian & Beck, 1979; Carlson & Cantwell, 1982; Dori & Overholser, 1999; Fawcett, 1988; Hammond & Romney, 1995; Kashani, Reid, & Rosenberg, 1989; Kazdin et al., 1983; Kovacs, Beck & Weissman, 1975; McLaughlin, Miller, & Warwick, 1996; Steer, Kumar, & Beck, 1993; Minkoff, Bergman, Beck, & Beck, 1973; Pinto & Whisman, 1996). Additionally, numerous researchers (Beck, Brown, & Steer, 1990; Beck et al., 1975; Bedrosian & Beck, 1979; Beck & Weissman, 1975; Fawcett, 1988; Minkoff, Bergman, Beck, & Beck, 1973) have found support for Beck's hypothesis. Specifically, Beck and colleagues (1990) found that hopelessness was even more useful in explaining suicidality then depression. Additionally, Asarnow and Guthrie (1989) found that when hopelessness was controlled for depression had only a weak association with suicide intent. Thus, hopelessness appears to be a powerful predictor of suicide ideation, intent, and behaviors.

However, the majority of the studies that found evidence for hopelessness as a powerful predictor of suicidality surveyed adult samples. As a result a number of researchers (Asarnow & Guthrie, 1989; Asarnow, Carlson, & Guthrie, 1987; Carlson & Cantwell, 1982; Dori & Overholser, 1999; Hammond & Romney, 1995; Kashani, Reid, & Rosenberg, 1989; Kazdin et al., 1983; McLaughlin, Miller, & Warwick, 1996; Steer, Kumar, & Beck, 1993; Pinto & Whisman, 1996) conducted studies to determine if these results were generalizable to other samples (i.e. adolescents).

To date, there has been contradictory evidence that hopelessness is a predictor of suicidality in adolescents. Specifically, Carlson and Cantwell (1982) and Asarnow and colleagues (1987) found that hopelessness had a higher association with depression and had little influence in the onset of suicidal symptoms. Additionally, Carlson and Cantwell determined that hopelessness was ineffective in distinguishing between depressed-suicide attempters and non-attempters. As a result of the previous findings, Asarnow and colleagues (1987) concluded that hopelessness may not be a reliable indicator of suicidal risk because of some developmental issues that arise in adolescence. For example, Bemporad and Wilson (1978) found that adolescents were more focused on the present and had a difficult in conceptualizing the future.

Alternatively, there is another group of researchers (Dori & Overholser, 1999; Hammond & Romney, 1995; Kashani, Reid, & Rosenberg, 1989; Kazdin et al., 1983; McLaughlin, Miller, & Warwick, 1996; Steer, Kumar, & Beck, 1993; Pinto & Whisman, 1996) who have found evidence for Beck and colleagues' (1975) hypothesis that hopelessness is a powerful predictor of suicidality in adolescents. Additionally, some researchers (i.e. Kazdin et al., 1983) have found that hopelessness was more consistently correlated with suicide intent then was depression. Moreover, researchers such as Kazdin and colleagues (1983) used a hopelessness measure that was designed for adolescents, whereas some of the other studies (i.e. Carlson & Cantwell, 1982) used instruments that were more appropriate for adults. Thus, a lack of a hopelessness instrument designed for adolescents could have been a limitation that underscored the association between hopelessness and suicidality in adolescents in some research studies.

Self-efficacy. Another cognitive variable that has been consistently related to suicidality is self-efficacy. According to Bandura (1986) self-efficacy refers to one's evaluation of his/her "capability to organize and execute courses of action required to attain designated types of performances (p. 391)." Bandura (1999) also noted that perceptions of efficacy affect the onset, intensity, and duration of coping strategies used to manage difficult interpersonal conflicts. As a result, a low evaluation of one's ability to cope with negative stressors will likely exacerbate emotional distress, whereas a high evaluation of one's ability to cope with negative stressors will likely hinder the onset of emotional distress.

A number of researchers (i.e. Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Muris, 2001; Oliver & Paull, 1995) found empirical evidence that suggests self-efficacy is a strong predictor of depression in a variety of samples. Moreover, considering the strong positive relationship between depression and suicidality, Bandura and colleagues (1999) hypothesized that self-efficacy may act as both a risk and protective factor to the onset of suicide symptomology.

As a result of Bandura and colleagues (1999) hypothesis, a moderate amount of researchers (Dieserud et al., 2001; Dieserud, Roysamb, Braverman, Dalgard, & Ekeberg, 2003; Kaslow, Thompson, Okun, Price, Young, Bender, Wyckoff, Twomey, & Goldin, 2002; Labelle & Lachance, 2003; Locke & Newcomb, 2005; O'Conner & Armitage, 2003; Thompson, Kaslow, Short, & Wyckoff, 2002) examined the relationship between self-efficacy and suicidality. Kaslow and colleagues (2002) found that low self-efficacy was more prevalent in suicidal group of abused African American women compared to a non-suicidal group of African American women. Furthermore, Kaslow and colleagues

suggested that higher levels of self-efficacy engendered consistent sources of emotional support that inhibited the onset of suicide symptomology. Alternatively, low levels of self-efficacy were likely to be associated with less social support and more confusion about how to obtain social support within their environment.

Additionally, O'Conner and Armitage (2003) noted that more specific forms of self-efficacy had a significant impact on the onset of suicidality in a sample of adults with a previous suicide attempt. Specifically, O'Conner and Armitage hypothesized that individuals with a previous suicide attempt would have higher levels of self-efficacy regarding one's ability to self-mutilate compared to a group of hospital controls and a group of community controls. As expected, O'Conner and Armitage found that individuals with a previous suicide attempt had higher levels of self-efficacy about self-mutilating. As a result, O'Conner and Armitage posited that a high sense of efficacy regarding self-mutilation would explain why a significant amount of individuals who experienced a suicide attempt would reattempt.

Another type of focused self-efficacy that might have a negative association with suicidality is academic self-efficacy. Specifically, Labelle and Lachance (2003) hypothesized that low academic efficacy would contribute to the onset of suicide ideation in a sample of college students. As expected, Labelle and Lachance found that low academic efficacy predicted 11% of the variance in male suicide ideation and 19% of the variance in female suicide ideation. Furthermore, academic efficacy accounted 35% of the total variance in suicide ideation scores. According, to Labelle and Lachance, these results suggest that academic efficacy must be a key component to any treatment plan involving suicide ideation in college students.

Lastly, there has been only one known study that has examined the self-efficacy-suicidality relationship in a sample of adolescents. Specifically, Locke and Newcomb hypothesized that certain elements (i.e. assertiveness, problem solving confidence, and competence) of general self-efficacy would serve as protective factors in the onset of suicide ideation in a sample of adolescent Hispanic males. As expected, all three elements of general self-efficacy were found to have a negative relationship with suicide ideation in adolescent Hispanic males. Consequently, their conclusions provided preliminary evidence that self-efficacy may be a significant protective factor in adolescent suicidality.

Overall, it appears that both hopelessness and self-efficacy contribute to the onset of suicide symptomology. However it is imperative that researchers continue to examine other cognitive factors' association with adolescent suicidality, in order to establish more effective prevention and intervention programs to treat suicide symptomology. As a result, I looked at the potential association between suicide proneness and another cognitive variable, TAF.

TAF Beliefs and Various Types of Adolescent Suicidality

As previously noted, there have be no known studies that have examined the relationship between TAF thinking and suicidality in a sample of adolescents. However, there is a significant amount of empirical evidence that suggests a positive relationship might exist. Specifically, numerous researchers (i.e. Berle & Starcevic, 2005) have shown that both TAF thinking and adolescent suicidality share common correlates such as: self-blame, guilt, pathological worry, irrational responsibility, anxiety symptoms, and depression. Additionally, according to Berle and Starcevic (2005) TAF thinking can be

described as an internalized cognitive appraisal style. This specifically may suggest there may be a significant relationship between TAF thinking and suicidality because internalized cognitive appraisal styles have been consistently found to have positive associations with suicidality (Eshun, 2000). However, considering that suicidality incorporates a number of thinking processes and behaviors, there are no concrete indications of what types of ideations or behaviors TAF thinking may be associated with. In the next section, I took an in depth look at the theoretical commonalities that may associate TAF thinking and various types of suicidal behaviors.

TAF and death related proneness. According to Berle and Starcevic (2005) adolescents who engage in TAF thinking are more prone to experience serve amounts of emotional distress. This emotional distress may take the form of guilt, self-blame, anxiety symptoms, or depressive symptoms. Specifically, Amir and colleagues (2001) noted that these distress symptoms could arise from the erroneous perception that one's thought processes are responsible for harming oneself or others. To date, there has been no research that has examined the effects of irrational responsibility on relationship building and relationship maintenance. However, it is quite feasible to deduce that such irrational levels of responsibility may have a powerfully negative effect on the ability to create and maintain relationships.

Consequently, Joiner (2005) noted that a strong desire to die was heavily impacted by an individual's perception that he/she is unable to create relationships or be effective in the maintenance of current relationships. Therefore, the possibility may exist that irrational levels of responsibility embedded within TAF thinking make one more vulnerable to a desire to die. Additionally, feelings of ineffectiveness and isolation may

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exacerbate the emotional distress that an individual is already experiencing. As a result, the individual who engages in TAF thinking may view suicide as a means to escape the emotional pain that is associated with it (Baumeister, 1990). Overall, it seems that TAF thinking may be associated with such death-related behaviors as suicide ideation and suicide attempts in adolescence.

TAF and health-related proneness. Health-related behaviors may be associated with TAF thinking especially indirectly through the effects of depression. According to Muris and colleagues (2001), TAF thinking was positively associated with depression in a sample of community adolescents. Moreover, Berardi (2001) surveyed 1896 primary care patients over the age of fourteen to determine how many patients presented depressive symptoms. They found that 8% of the participants presented with severe symptoms of depression. As a result, Berardi and colleagues (2001) concluded that depression was highly associated with physical illness. However, Berardi and colleagues did not offer any information regarding the direction of the physical illness-depression relationships. In essence, does physical illness precede depression or vise versa?

In order to shed more light upon the directional relationship between physical illness-depression relationship in adolescents, Husler and colleagues (2005) ran a series of structural equation models (depression led to more physical illness and physical illness led to more depression). Their results concluded that the model with the best fit was their primary model, where depression acted as a precedent to physical illness. These results suggest that adolescents who are depressed are more likely to become physically ill. Furthermore, according to Husler and colleagues (2005) depressed adolescents were also more prone to experience various types of medication, more surgeries, and more

exposure to needles. As a result, it appears that since depression appears to be associated with TAF thinking and physical illness, their might be a significant relationship between TAF thinking and physical illness in adolescents.

TAF and injury-related proneness. TAF thinking may also be associated with significant levels of injury-related behaviors. Specifically, there have been numerous researchers (Hazlett-Stevens et al., 2002, Rassin et al., 2001a; Rassin et al., 2001b) who have concluded that TAF thinking is associated with various symptoms of anxiety (most notably pathological worry). Moreover, Berle and Starcevic (2005) also hypothesized that TAF thinking may be a causal factor in the onset of these anxiety symptoms. Considering how anxiety symptoms appear to be a powerful predictor of self-mutilation in adolescents (Bennum, 1984), TAF thinking may be associated with self-injurious behaviors directly or indirectly through anxiety symptoms.

In a sample of adolescents and young adults Hazlett-Stevens and colleagues (2002) found that anxiety symptoms (especially pathological worry) was positively associated with certain types of TAF thinking (TAF Likelihood beliefs). Moreover, Bennum (1984) postulated that one of the main reasons why adolescents self-mutilated was to reduce the amount of negative affect that they were experiencing. Specifically, Favazza and Conterio (1989) found that 72% of females who self-mutilated did so in an attempt to stop their mind from racing, while 65% of the female self-mutilators justified self-harm because it was the only means to help them relax. Furthermore, Ross and Heath (2002) found that adolescents who self-mutilated had reported more difficulties with anxiety symptoms than those adolescents who did not engage in self-mutilations. As a

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result, Ross and Heath (2002) concluded that anxiety is a precipitant factor to self-mutilation in adolescents.

Additionally, Raine (1982) noted that adolescents may self-mutilate as a form of self-punishment. This is especially interesting when one considers the effects of TAF thinking of adolescents. Specifically, Berle and Starcevic (2005) postulated that personalization and self-blame were key factors in the positive relationship between TAF thinking and depression. Severe amounts of self-blame and personalization may promote the perception that the person who is engaging in TAF thinking is a bad person, who needs to be punished. As a result, the person may turn to self-injurious behaviors as a form a punishment.

TAF and self-related proneness. Shafran and colleagues (1996) rationalized how TAF thinking can lead to negative self-evaluations. Specifically, they noted that when a person engages in TAF thinking, he/she is likely to experience extreme amounts of guilt and/or shame for not being able to control the outcome of certain events. Moreover, if the person continues to blame himself/herself for uncontrollable thoughts or outcomes, then he/she is more likely to place negative value on his/her self-worth. Specifically, the individual will frequently label himself/herself as inherently bad because he or she feels powerless in preventing harm for themselves or others.

Furthermore, these negative self-evaluations may explain the association between TAF thinking and depression. According to Shrik, Gudmundsen, and Burwell (2005), negative cognitions about self-worth are a powerful risk factor in the onset and/or the exacerbation of depressive symptoms in adolescents. To test their hypothesis they correlated the reports of depression scores and negative self-evaluations scores in a

sample of 168 community adolescents. As expected, depression was highly associated with cognitive evaluations of self-worth. As a result, it appears that TAF thinking fosters frequent engagement in negative self-evaluating, which in turn could contribute to the onset of depression and suicidality in adolescents.

Gender Differences, TAF, & Suicide

The nature of the relationship between gender and adolescent suicidal thoughts and behaviors can be described as paradoxical. Regarding suicide completion, research has reported that males complete more than females at a 4.7:1 ratio (National Center for Injury Prevention and Control, 2005). However, researchers have noted that females attempt more than males do at a 3:1 ratio (Center for Disease Control and Prevention, 2002). Additionally, female adolescents and young adults also tend to report more suicidal ideation compared male adolescents and young adults (Andrews & Lewinsohn, 1992). In response to these paradoxical conclusions, Langhinrichsen-Rohling, Lewinsohn, Rohde, Seeley, Monson, Meyer, and Langford (1998) asserted that gender differences in suicide are likely to be explained by the gender differences in constructs (i.e. depression, hopelessness, cognitive response styles) that have been empirically associated with suicidality. One construct that might help explain gender differences in suicidality is TAF thinking.

Chronological Age, Development, and TAF Beliefs.

To date, most TAF researchers commonly refer to TAF thinking as an antecedent to psychopathology in both adolescents and adults. However, there are some theorists (i.e. Piaget, Erikson, and Elkind) that imply aspects of TAF thinking may be a product of developmental aspects of adolescence. Specifically, Piaget (1954) noted that adolescence

is a time period where teenagers develop accurate reality testing abilities. Moreover, he suggested that since older adolescents have been privy to more life experiences, they were likely to use reality testing abilities more efficiently.

Similarly, Erikson (1968) noted that adolescence was a period where teenagers would strive to form a stable sense of identity. Erikson also noted that a developed sense of identity was more synonymous with positive and healthy cognitive beliefs. Alternatively, teenagers who have not been able to explore their identity for one reason or another were likely to experience more cognitive errors in information processing. Much like Piaget, he postulated that since older adolescents had more life experiences they were likely to have more developed identities then younger adolescents.

Lastly, Elkind (1967) postulated that during their teenage years adolescents will develop an egocentric attitude that accompanies them through the emergence of Piaget's formal operations stage. From this egocentric attitude adolescents may believe that they are indestructible; engendering a high sense of personal power and uniqueness. Moreover, adolescents who experience a sense of indestructibleness and high sense of personal power may attribute more magical tendencies to their beliefs (Ormont, 1969). Specifically, adolescents may be more prone to believe that their thoughts are powerful enough to influence the outcome of certain occurrences. Again, much like Piaget and Erikson, Elkind noted that older adolescent were most likely more engaged within Piaget's formal operations stage of development and therefore less likely to engage in egocentric thinking compared to younger adolescents.

Overall, it appears that younger adolescents seem to struggle more with their new cognitive abilities compared to older adolescents. Specifically, due to their lack of

experience, younger adolescents may attribute more value to their cognitive abilities, commit more errors in information processing, and attribute more magical tendencies to their beliefs. Such characteristics may be embedded within TAF thinking. As a result, I attempted to determine whether any age differences existed among adolescents on TAF thinking.

Summary

Suicide thoughts and behaviors appear to be increasingly more prevalent in the development of adolescents. As a result, researchers have attempted to construct reliable prevention and intervention programs to reduce the rates of suicidality. Unfortunately, it appears that suicide researchers and clinicians have been unable to create effective prevention and interventions programs for adolescent suicidality. The lack of effective programs is most likely a reflection of an incomplete understanding of adolescent suicidality. One specific aspect of suicide research that may enhance the effectiveness of prevention and intervention programs is to learn more about the impact of cognitions. The research on cognitive influences on adolescent suicide is scant, and therefore future researchers may want to develop studies that investigate the impact of cognitive variables on suicidality in adolescence. My main purpose in this study was to investigate the relationship between TAF thinking and suicide proneness in a sample of community adolescents. In addition to investigating the relationship between TAF thinking and suicide proneness, I also looked to determine the effects of gender and age on adolescent TAF thinking. Such analyses may have a significant impact on other aspects of adolescent suicidality. Specifically, through this proposed study, I might be able to

engender significant insights in developmental and gender related considerations of

adolescent suicidality.

CHAPTER III

METHODOLOGY

Overview

In this section, I described the relevant parts of the procedural section of my study. I began this description with a thorough evaluation of the participants that were sampled for this study. I then described the procedures used in order to obtain permission to recruit the participants of this study. Specifically, I outlined the potential harmful effects of my study, how I dealt with these potential effects, data collecting procedure, incentives used to recruit participants, training of the researchers, and storage of data. I then followed this section with a brief description of the measures and their psychometric properties. Lastly, I concluded this section with a short summary on the research design and research questions I examined in this study.

Participants

I collected data from 260 community adolescents. I recruited my participants at a Midwestern, urban public high school. Due to the arrangements with the high school, I collected data from Seniors, Juniors, and Sophomores only. Unfortunately, I was not able to collect data from the Freshman class. The school prohibited their participation due to the fact they had already taken a state wide survey the previous semester and did not want them to miss anymore class time. The sample included 145 females (56%) and 115 males (44%). Of the 260 participants, 139 were seniors (54%), 49 were Juniors (19%), and 72 were Sophomores (28%). I collected data from 26 fifteen year-olds (10%), 55 sixteen year-olds (21%), 50 seventeen year-olds (19%), 122 eighteen year-olds (47%), and 7 nineteen year-olds (3%). The mean age of the sample was 17.01 years. The sample was mostly Caucasian (55%), African-American (21%), Mixed-racial background (10%), Latino (7%), Native American (5%), and Asian American (2%). Lastly, while recruiting

participants and entering data provided by the participants, I noticed that a significant

amount of participants appeared to be academically delayed. Specifically, 8% of the

Seniors (Seniors who were nineteen years or older), 25% of the Juniors (Juniors who

were eighteen years or older), and 9% of the Sophomores (Sophomores who were

seventeen years or older) appeared to be academically delayed.

Contacts. A meeting was held with the Coordinator of Trauma Prevention

Services, the Director of Community Based Services, and Adolescent Health Coordinator

to discuss the availability of specific Midwest high schools who would be interested in

taking a survey. In the meeting, members from the state department and the researchers

tried to identify schools who would be willing to cooperate and that were not schedule to

participate in any state mental health surveys in the upcoming semester. Additionally, I

was referred to advocate for the project through community mental health agencies. As a

result, I made contact with Tulsa public high schools through Columbia Teen Screen,

which is a mental health facility that assesses suicidality in adolescents who attend public

high schools.

Procedure

Before data were collected there was a series of steps that I took to ensure that the

participants were ethically protected from any harm. First, I made an appointment to meet

with the school principal, counselors, and district leader ship board to discuss the nature

of the study and to ask permission to use their students as participants. Once permission

was procured from the required school representatives, I submitted a draft of the purpose,

procedures, inducements, potential risks and benefits, and significance of this study to

Oklahoma State's Institutional Review Board. After I obtained consent from the school

principals, school boards, and OSU's IRB, I then addressed the specifics of conducting this study with the school principals and counselors.

Other requirements were also satisfied in order to ensure that the participants were protected from any kind of potential harmful effects that the study might evoke. Specifically, with the aid of the school principal, school counselors, and the English department faculty, I visited the high school approximately two weeks before the data collection date in order to inform students of the possible chance to be a participant in a research study. At this time participants were given two copies of informed consent. The first copy needed to be signed by a parent/guardian (giving their permission for their child to participate in the study) and returned to one of the faculty members. The first informed consent needed to have both the parents/guardians signature and the adolescent's signature in order to partake in the data collection process. The second copy was given to the student's parents/guardian to keep for his/her personal records. Each informed consent sent home addressed the nature of the study. The informed consent contained information about the content of the study, a brief disclosure to the purpose of the study, the potential risks and benefits of the study, clauses that remind both the student and the parental guardian that the study is both voluntary and anonymous, any incentives that will be offered for completion of the study, and a contingency clause that states if the participants are negatively affected by participating in the survey then there will be measures to aid the participant back into the emotional state he/she was in before taking the study.

I also remained at the high school for the entire day of data collection to ensure that any participant who wished to discuss the affects of the study had ample time to do

so with me. Furthermore, I also negotiated with the school counselors to allow any student to come in and discuss with them any type of emotional disturbance they may have experienced from taking this survey. The school counselors made themselves available anytime during and after the data collection process. Additionally, I also made myself available at numerous publicized school-wide meetings, via telephone, and via email to address parental questions about the study or to receive parental non-consent notices.

On the days in which data collection occurred I went go to each participating English class before the beginning of school and collected all the informed consents. After I collected all of the informed consents, I entered each participating classroom (at the previously arranged time) and specifically reviewed with the participating students the assent form in which they signed before they took the survey. After the assent/consent form (depending on the age and legal status of the participant) had been read aloud, I passed out the survey to each student who has successfully obtained consent from his/her parent and/or given his/her consent/assent to participate in the study. All of the other students who either did not obtain consent or did not give assent worked a paper and pencil task pre-arranged class assignment that was handed out by the specific rooms' faculty member.

The survey took approximately thirty minutes for all of the students to complete. After I received all the completed surveys, I then passed out the small incentive (i.e. candy bar and/or a coke) that was promised the student in the informed consent and a debriefing sheet that details specific numbers the student can call if the student feels that he/she is in need of need of aid in resolving some of the emotional turmoil that might

have been precipitated by taking this survey. Additionally, I made myself available to any participant that was completely overwhelmed by the nature of the survey and needed immediate psychological attention. Lastly, I compensated the school in two ways. After the data from the school was analyzed the school received a report describing an aggregate picture of the schools students' participation in risky behavior (i.e. suicide attempt, drug abuse, child abuse). This report did not include any names of specific students. It simply identified the amount of students who were having trouble with certain risky behaviors. All information was general and represented the sample as a whole. Secondly, for each class (i.e. Sophomore, Junior, and Senior), I gave one dollar to the student government for every student who completed my survey. The money was given directly to the class president of each class and was to be used for student activities such as prom and/or school field trips.

Storage of data. All information the participants provided was anonymous. Their information was identified by code number only. Participants' names were not placed anywhere on the survey. All information is stored in a lock file cabinet in my office. My committee and I are the only ones who have access to the data. The information the participants provided will be locked and kept safe for five years. After the five years are up, all information collected from this project will be destroyed. Individual responses to the survey will not be published in any manner. Only group information will be presented in any publications generated from this research, participants' information will not be personally identified in any way.

Research assistants. All researchers had completed a masters level degree in counseling psychology. All researchers had professional training in ethical issues

regarding research with adolescents. Moreover, all researchers were trained for this specific project before collecting data from the students. Specifically, the researchers had extensive knowledge in data collection with children and adolescents, parental informed consents, confidentiality, and debriefing. Lastly, the researchers were available to talk to participants who become upset during the completion of the survey. Three students desired to talk with the primary researcher, and only one person discussed how the survey negatively affected their mood. The other two participants wanted to discuss personal issues not directly related to participating in the survey. When such an occurrence arose, the researcher privately talked to the participant to reduce any type of emotional disturbance and screen for severer emotional distress. Additionally, before the data collection all researchers met with the mental health professional at the school, in order to determine a course of action for transitioning upset participants from the researcher to the mental health practitioners.

Measures

    Life Attitudes Schedule Short Form: LAS-SF. The LAS-SF (Rohde, Lewinsohn, Seeley, & Langhinrichsen-Rohling, 1996) is a 24-item measure that assesses the broad construct of suicide-prone behavior. The short form is similar to the original instrument, the Life Attitudes Schedule (Lewinohn et al., 1995), in that it also consists of the same four content areas: Death Related, Self Related, Health Related, and Injury Related. The Death Related subscale measures suicide and death related themes as well as themes regarding reasons to live. The Health Related domain consists of items that measure illness, lack of self-care, and wellness. The Self Related subscale measures self-worth, self-image, self-enhancement, and self-promotion. Lastly, the Injury Related sub-scale

measures injury-enhancing, risk-taking, and safety related thoughts, feelings, and behaviors. The short form has been shown to be highly correlated ($r = .93$) with the original version of the LAS. Like the original form of the LAS, the short form also uses a 4 (content areas) x 3 (behavior types) x 2 (valence) matrix. The highest score one can receive on the short form is 24 if the participant answers all of the negative items negatively and fails to endorse any of the positive items.

    Psychometrics. Internal consistencies for the short form are .92 for the total scale, .82 for the death-related items, .80 for the health-related items, .88 for the injury-related items, and .79 for the self-related items (Rohde et al., 1996). Test-retest reliability ranged from .67 to .80 for the content areas and .84 for the total LAS score in college samples (Rohde et al., 1996). For my study, the internal consistencies for the LAS short-form were .77 for the LAS total score, .52 for the death-related sub-scale, .52 for the health-related sub-scale, .60 for the injury-related sub-scale, and .60 for the self-related sub-scale. Considering the low reliabilities of the LAS-SF, I decided not to use them in my analysis. Instead, I decided to use the total LAS score which has an adequate reliability coefficient.

    Thought-Action Fusion Questionnaire for Adolescents: TAFQ-A. The TAFQ-A (Shafran et al., 1996) is a 15-item measure that assesses TAF thinking in adolescents. Eight of the items measure TAF Morality thinking. Specifically, each item Of the Morality subscale consists of two components. The first component is a brief vignette that helps the adolescents to conceptualize TAF Morality thinking (e.g. "You are with a friend. Suddenly without any reason you think your friend is a stupid person."). The second component of each item asks adolescents, how similar is having this thought to

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actually doing the action (e.g. "Having this thought is almost as bad as really saying to your friend that he is stupid.")? Seven of the items measure TAF Likelihood thinking. Again, each TAF Likelihood item is broken down into two components. The first component is a brief vignette that helps the adolescent conceptualize TAF Likelihood thinking (e.g. "Suddenly without a reason you have the thought that your father is laid off and that there are financial problems at home."). The second component of each item asks adolescents, does having this particular thought increases the likelihood that the event will take place (e.g. "Having this thought increases the risk that your father really will be laid off.")? The second component of both TAF Morality and Likelihood items uses a 4 point Likert scale as how true this statement is for the adolescent (1 = not true at all to 4 = very true).

Psychometrics. Muris and colleagues (2001) conducted a principle component analysis on a normal adolescent sample, which produced a two factor structure that accounted for 50% of the variance in TAF scores. The two factors obtained were TAF-Moral and TAF-Likelihood. Moreover, internal consistency coefficients were adequate for both factors (Cronbach's alpha .84 and .81 respectively). For my study, the internal consistencies for the TAFQ-A were .83 for the TAF-total score, .84 fore the TAF-Moral sub-scale, and .78 for the TAF-Likelihood sub-scale.

Research Questions and Design

This investigation was designed to assess mean differences between younger and older adolescents and between female and male adolescents. Additionally, this investigation also looked at the ability of two TAF thinking styles to account for a significant amount of variance in four distinct suicide proneness measures. Overall, this

investigation was encouraged by a desire to extend both the TAF and adolescent suicide literature.

The following questions will be tested in the study.

1) Is there a significant interaction between age and gender in measuring for TAF-Moral and TAF-Likelihood beliefs?

2) Does the combination of the TAF subscale scores predict a significant amount of variance in four different types of suicide behaviors?

Mean scores for female and male adolescent at various ages were reported on a number of dependent variables (i.e. TAF-Moral, TAF-Likelihood, Death-Related behaviors, Health-Related behaviors, Injury-Related behaviors, and Self-Related behaviors). Question one was answered by using a 2 x 6 (gender by age) factorial analysis of variance. Specifically, gender (male vs. female) and chronological age (13-18 year olds) were the independent variables, while both TAF-Moral and TAF-Likelihood were the dependent variables. Question three was answered by four distinct multiple regressions. For the four multiple regressions, each one of the suicide proneness measures was the criterion variable, while TAF-Moral and TAF-Likelihood were the predictor variables. Additional analyses included inter-correlations among all of the suicide proneness and TAF variables.

Summary

In this study, I surveyed 260 community adolescents on both suicidal proneness and thought-action fusion. Participants were recruited through a public high school in the Midwest. I procured permission to collect data from a university IRB, the high school principle and school board, and the parents of legal guardians of the participants. All

information collected was confidential and participants were instructed not to place their

name on any of the material before data collection. The survey approximately took only

thirty minutes for each participant to complete the study. After completion of the study,

every participant received a referral list in case the survey has negatively altered their

mood. Additionally, a trained counselor was made available to the participants to manage

any crisis situations that may arose from taking the survey. Participants were given small

incentives (i.e. candy/soft drink and one dollar which goes towards the student

government to set up school activities) for completing the survey. All data was stored in a

secure cabinet with only the primary investigator and his committee having access to the

cabinet. Furthermore, I used valid and reliable instruments to measures the desired

constructs. Lastly, I analyzed the data by using well developed statistical procedures.

CHAPTER IV

FINDINGS

Introduction

I collected data from 260 community adolescents. The participants had a mean age of 17.01 (with a range from 15-19 year olds). Data were collected from Seniors, Juniors, and Sophomores only. The sample of adolescents were relatively diverse with the majority of participants being Caucasian, African-American, and bi-racial. Observationally, I found that a significant number of participants were academically delayed. As a result, I ran two MANOVAs (age vs. gender and academic class vs. gender) to examine my first research question. Additionally, I found that my subscales measures for the suicide proneness inventory had inadequate reliability coefficients (alphas below the .70 cutoff score). As a result, I used the suicide proneness total score to examine the relationship with the two TAF subscales scores. Also, I used the suicide proneness total scores as my criterion variable in my multiple regression.

Overview

The findings of this study are presented according to the research questions. Preliminary analyses were conducted to explore potential age, gender, racial, and academic class group differences on the main study variables including suicide proneness and the two TAF subscales variables, TAF-Moral and TAF-Likelihood. MANOVA correlational, and regression analyses were conducted to answer the research questions for this study.

Preliminary Analyses

The means and standard deviations for the TAFQ-A total score, TAF-Moral subscale score, TAF-Likelihood subscale score, and LAS-SF total score for the total sample are presented in Table 1. I also conducted a few preliminary analyses to obtain a

more robust picture of how various types of adolescents (gender, age, and race) reported

thought-action fusion beliefs and suicide prone behaviors, feelings, and thoughts.

Suicide proneness demographics. I ran four ANOVAs to determine whether there

were any demographic group (i.e. gender, ages, classes, and race) differences on suicide

proneness total scores. The total suicide proneness score was used in these analyses

because the total score was more reliable (alpha = .77) than the subscale scores. In the

first ANOVA, I found that there were significant gender differences in the reporting of

suicide proneness total scores (F (1, 258) = 8.60, p = .004). Specifically, I found that

adolescent males (n = 115) reported higher suicide proneness total scores compared to

adolescent females (n = 145) (d = .36). Means and standard deviations of both male and

female suicide proneness scores can be found in Table 2. In the second ANOVA, I found

that there were no significant age differences in the reporting of suicide proneness total

scores (F (3, 249) = 1.40, p = .24). It appears that fifteen, sixteen, seventeen, and eighteen

year old adolescents (nineteen year olds were excluded from the analysis due to their

small number within the sample) do not significantly differ in their proneness to suicide.

Means and standard deviations for fifteen, sixteen, seventeen, and eighteen year old

adolescents' suicide proneness scores can be found in Table 3. In the third ANOVA, I

found that there were no significant differences among class grades (Seniors, Juniors, and

Sophomores) on suicide proneness total scores (F (2, 257) = .62, p = .54). It appears that

Seniors, Juniors, and Sophomores report similar levels of suicide proneness during their

high school years. Means and standard deviations for suicide proneness scores by

academic class can be found in Table 4. Lastly, in the fourth ANOVA, I found no

significant difference among students from different racial backgrounds on suicide

proneness total scores (F (2, 222) = 2.28, p = .105). It appears that African American students, Caucasian students, and students with multi-racial backgrounds (Latino, Asian American, and Native American students were excluded from the analysis due to low numbers within the sample) report similar levels of suicide proneness during their high school years. Means and standard deviations for suicide proneness scores by racial group (i.e., African-American students, Caucasian students, and students with a multi-racial backgrounds) can be found in Table 5.

Thought-action fusion demographics. Analyses comparing gender, age, and class mean differences on the TAF subscales are apart of my analysis for my first research question, and therefore will be presented later in the results section. However, I did conduct one MANOVA comparing racial differences (i.e., African American, Caucasian, and multiracial students) among the two TAF subscales (TAF-Moral and TAF-Likelihood). I found that there was an overall significant main effect for race on the two TAF subscales (Wilks' Lambda (2, 222) = 3.82, p = .005). Follow-up univariate analyses revealed that racial differences for the TAF-Likelihood subscale (F (2, 222) = 4.01, p = .019), but not for the TAF-moral scores (F (2, 222) = 1.66, p = .192). Results of the post-hoc analyses indicated that African American students reported higher TAF-Likelihood scores compared to Caucasian students (d = .43). There were no significant differences between African American students and students with a multi-racial background or between Caucasian students and students with a multi-racial background. Means and standard deviations of African American students, Caucasian students, and students with a multi-racial background on TAF-Moral and TAF-Likelihood scores are presented in Table 5.

Research Question # 1

Research Question # 1: "Is there a significant interaction between age and gender in measuring for TAF-Moral and TAF-Likelihood beliefs?"

Null Hypothesis # 1: "There is no significant interaction effect between age and gender when measuring for TAF thinking in a community sample of adolescents."

Gender and age on TAF. To examine if an interaction existed between gender and age on the two TAF subscales (TAF-Moral and TAF-Likelihood), I ran a 2 x 4 (male vs. female, fifteen vs. sixteen vs. seventeen vs. eighteen) MANOVA. The nineteen year olds were excluded from the analysis due to a small amount of them within the sample. Overall, I found that there was no significant interaction between age and gender in regards on the two subscales of TAF (Wilks' Lambda (3, 245) = 1.02, p = .411). See Table 6 for the means and standard deviation scores for this analysis. Cell means and main effects on TAF-Moral and TAF-Likelihood are presented in Table 6. I also found that there were no significant main effects for gender (Wilks' Lambda (1, 245) = .85, p = .427) or age on the two TAF subscales (Wilks' Lambda (3, 245) = .61, p = .725). Overall, it appears that boys and girls and adolescents from different age groups do not significantly differ in the morality of their thinking and the likelihood of engaging in thought-action-fusion. Therefore, the null hypotheses of my first research question was not rejected.

Gender and academic class on TAF. Considering that a significant amount of the participants in my sample appear to be academically delayed, I wanted to explore the impact of gender and academic class on the TAF subscale score. A 2 x 3 (male vs.

female, Senior vs. Junior vs. Sophomore) MANOVA was conducted on the two subscales of TAF (TAF-Moral and TAF-Likelihood) as my dependent variables. Similar to the first MANOVA, I found that there was no significant interaction effect on gender and academic class on the two subscales of TAF (Wilks' Lambda (2, 254) = 1.26, p = .284). Cell means and main effects on TAF-Moral and TAF-Likelihood are presented in Table 7. Again, I found that there were no significant main effects for gender (Wilks' Lambda (1, 254) = 1.34, p = .265). There were also no significant main effects for academic class on the two TAF subscales (Wilks' Lambda (2, 254) = .36, p = .834). Overall, it appears that boys and girls and adolescents from different academic classes do not significantly differ in the morality of their thinking and the likelihood of engaging in thought-action-fusion. Again, despite substituting academic class for age, I failed to reject the null hypothesis for my first research question.

Research Question #2

Research Question #2: "Does the combination of the TAF subscale scores predict a significant amount of variance in four different types of suicide behaviors?"

Null Hypothesis #2: "The combination of TAF thinking score do not predict a significant amount of variance in four separate measure of suicide proneness."

TAF and suicide proneness. To examine the question of the whether the two subscales of TAF could predict a significant amount of variance in suicide proneness scores, I ran Pearson product correlations among the three main variables: TAF-Moral, TAF-Likelihood, and suicide proneness (LAS total). A multiple regression analysis was also conducted with the total suicide proneness score as my criterion variable and the two TAF subscales scores as my predictor variables.

TAF-Moral was not significantly associated with the LAS total score ($r = -.073$, $p > .05$). However, I did find a small significant correlation between TAF-Likelihood and the LAS total score ($r = .15$, $p < .05$). In addition, TAF-Moral was moderately associated with TAF-Likelihood ($r = .30$, $p < .001$). Correlations among the variables are depicted on Table 8. Again, I also ran one multiple regression, using the enter method, where the LAS total score was my criterion variable and TAF-Moral and TAF-Likelihood were my predictor variables. I found that the combination of TAF-Moral and TAF-Likelihood predicted a statistically significantly, but non-substantial amount of variance ($R^2 = .04$) in the LAS total scores ($F (2, 257) = 4.82$, $p = .009$). Both TAF-Moral ($b = -.13$, $p = .048$) and TAF-Likelihood ($b = .19$, $p = .005$) were significant predictors of the LAS total score. Coefficients and statistics for the multiple regression are presented in Table 9. Overall, it appears likely that adolescents who believe that thinking about certain events or outcomes influences the occurrence of that event outcome tend to report more suicide prone thoughts, feelings, and behaviors. Thought-action-fusion predicted a small, (4%) but statistically significant proportion of the variance in suicide proneness scores. Therefore, the null hypothesis of my second research question was rejected.

Summary

In the preliminary analyses, I found that there were gender differences in total suicide proneness scores in a sample of community adolescents. Specifically, male adolescents reported higher levels of total suicide proneness compared to female adolescents in high school. Furthermore, I also found that there were significant racial differences in Thought-Action-Fusion Likelihood beliefs in the sample of community

adolescents. In particular, African-American adolescents reported higher likelihood belief scores than Caucasian adolescents in high school.

In the analysis of my first research question, I found that an age and gender interaction effect did not exist on TAF thinking in my sample of community adolescents. Moreover, I did not find any significant main effects for either age or gender on TAF thinking. I also found no significant interaction effect of academic class and gender on TAF thinking. Moreover, there were no significant main effects for either academic class or gender on TAF thinking in my sample of community adolescents. Overall, considering the lack of evidence I found, I failed to reject the null hypothesis for my first research question.

In examining the relationships between the TAF subscales and suicide proneness, I found only a small correlation between TAF-Likelihood and total suicide proneness. I examined this relationship further by using the two TAF subscales to predict the total suicide proneness scores. I found that the two TAF subscales predicted a significant amount of variance in the total suicide proneness score. Moreover, both subscales appear to be significant predictors of suicide proneness in adolescents. Overall, I did find evidence that the two TAF subscales predicted a significant amount of variance in the total suicide proneness score, therefore, I rejected the null hypothesis for my second research question.

CHAPTER V

CONCLUSION

Impetus of Study

Thought-action fusion is a cognitive process that appears to be prevalent in the onset of such Axis-I disorders as OCD, GAD, and possibly Major Depression (Berle & Starcevic, 2005). Specifically, thought-action fusion is defined as fusing an irrational/intrusive thought with a forbidden action (Rachman, 1993). Rachman (1993) went on to describe the thought-action fusion construct in two distinct ways (Moral and Likelihood beliefs). Thought-action fusion moral beliefs occur when an individual regards an intrusive thought and the forbidden action as equal (i.e. "it is equally wrong to think about pushing someone out a window as to actually pushing someone out the window"). Thought-action fusion likelihood beliefs occur when an individual believes that thinking about an intrusive thought actually influences the outcome of the forbidden action (i.e. "my previous thoughts about my dad getting fired were an actual cause of him getting fired").

To date, most of the thought-action fusion research has been conducted on adult samples. We know relatively little about whether the thought action-fusion processes are prevalent in adolescence. Furthermore, most of the thought-action fusion studies have been conducted on European samples, therefore it is unsure whether those results are generalizable to U.S. samples. As a result, I looked at the prevalence of thought-action fusion in a sample of U.S. community adolescents.

In addition, there are large gaps in the thought-action fusion literature in regards to gender, age, and race. Specifically, we know relatively little about how thought-action fusion affects adolescents from various genders, ages, and racial backgrounds. Therefore, the first purpose of my study was to determine if there were any demographic differences

(i.e. gender, age, and race) on thought-action fusion in a sample of U.S. community adolescents. Secondly, recent research has found that thought-action fusion may be prevalent in the onset of a wide range of psychopathological symptoms. To date, researchers have found solid evidence that thought-action fusion contributes to the onset of such Axis-I disorders as OCD (Rachman, 1993), GAD (Hazlett-Stevens et. al., 2002), and specific types of phobias (Rassin et. al., 2001a). However, researchers such as Berle and Starcevic (2005) have noted that thought-action fusion may be associated with depressive and suicidal symptoms. Therefore, the second purpose of this study was to determine whether thought-action fusion was associated with suicide prone thoughts (i.e. "I am worthless."), feelings ("When I am mad, I feel like hitting or striking an inanimate object."), and actions ("I often go on drinking sprees.").

Overview

In this section, I discussed my findings for each research question. Specifically, I compared my findings to the previously cited thought-action fusion and suicide proneness literature. In this discussion of my findings, I also reviewed different areas in the thought-action fusion and suicide proneness literatures that need to be addressed through future research studies. I then commented on the social and clinical implications of my findings. Lastly, I briefly discussed the limitations regarding my research design, participant sample, and measures.

Summary of Research Findings

In the present study, I examined thought-action fusion beliefs and suicide proneness in a community sample of U.S. adolescents (N = 260). First of all, the TAFQ-A was deemed to be a reliable instrument. The total thought-action fusion score had an

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internal consistency coefficient of .83, the TAF-Moral subscale had an internal consistency coefficient of .84, and the TAF-Likelihood subscale had an internal consistency coefficient of .78. Second, I found that male and female adolescents from varying ages reported similar amount of thought-action fusion thinking. Third, I found that African-American adolescents use more thought-action fusion likelihood beliefs (thinking about an intrusive thought actually influences the outcome of the forbidden action) compared to Caucasian adolescents. Fourth, it appears that male adolescents engage in more suicide prone behaviors and thoughts compared to female adolescents. Fifth, I found that adolescents who engage in more thought-action fusion likelihood thinking were more likely to engage in more suicide prone thoughts and actions. Furthermore, I found that thought-action fusion moral (when an individual regards an intrusive thought and the forbidden action as equal) and likelihood (thinking about an intrusive thought actually influences the outcome of the forbidden action) beliefs predicated a statistically significant amount of variance in the total suicide prone thoughts (i.e. "I am worthless") and behaviors (i.e. "When I get mad a usually smash my fist against the wall.") **.**

Thought-Action Fusion and Demographics

     Assessment. The TAFQ-A was established by using data from normal Dutch adolescents. In this study, I wanted to determine if the TAFQ-A was a reliable measure in a sample of community U.S. adolescents. I found that the TAFQ-A was a reliable measure of thought-action fusion in my sample. As previously noted, each of the three TAF scores had an adequate internal consistency (the TAF total score had an alpha of .83, the TAF-Moral score had an alpha of .84, and the TAF-Likelihood had an alpha of

.78). These results confirm Muris and colleagues (2001) findings that the TAFQ-A is a reliable instrument of thought-action fusion that can be used with a variety of adolescent samples. As a result, researchers should be comfortable using the TAFQ-A in future work with U.S. community adolescents. However, researchers should try to obtain evidence for the reliability of TAFQ-A in other adolescent samples (i.e. clinical samples).

Demographics. One of the major purposes of this study was to obtain a clearer understanding of how gender, age, academic class, and race affect thought-action fusion beliefs in a sample of community U.S. adolescents. As a result, I conducted several analyses that engendered a more robust picture of the prevalence of thought-action fusion thinking in a diverse group of adolescents.

Age and TAF. According to my results, I did not find any significant differences in thought-action fusion beliefs among 15 through 18 year old high school students. I believe that this finding is important when considering how adolescents develop their cognitive abilities and establish their identities. Specifically, thought-action fusion beliefs are built upon faulty thinking that fosters an adolescents' propensity to use more magical tendencies to interpret the causes of events (Berle & Starcevic, 2005). Essentially, these magical tendencies may be indicative of adolescents' inability to accurately manage their abstract thinking skills (Bolton, et. al, 2002). As a result, it appears that the magical thinking element of thought-action fusion beliefs can be characterized by individuals who are transitioning out of Piaget's concrete operational stage of cognitive development into the formal operations stage of cognitive development. According to Diessner and Teigs (2001), individuals who are in this transitional period often rely on naïve or chimeric ideas (possibly magical) about how the world functions in order to get a firmer handle on

their new found abstract thinking abilities. As a result, thought-action fusion beliefs may be developmentally appropriate for individuals who are transitioning between Piaget's concrete operational stage of cognitive development and Piaget's formal operational stage of cognitive development. Considering, that I found no differences between 15 and 18 years old high school students, I am inclined to believe that middle aged adolescents and older adolescents have similar difficulties in interpreting their thoughts accurately. On a broader scale, this finding may also suggest that middle aged adolescents and older adolescents may be still be in state of transitioning between Piaget's concrete operations stage and Piaget's formal operation stage of cognitive development. This idea is congruent with De Lisi and Staudt (1980) hypothesis that adolescents do not master their abstract thinking abilities until they reach their early twenties.

Furthermore, these results also suggest that 15 and 18 year olds may be at the same stage of identity development. As previously cited, Eirkson (1968) noted that healthy and rational thinking was synonymous with a stronger sense of identity. Thought-action fusion beliefs are a form of irrational thinking that highlights an individuals' inability to engender rational explanations of how events occur (Rachman, 1993). According to Rachman (1993) individuals who use thought-action fusion processes often believe that by thinking about a certain event they have inevitably affected the occurrence or outcome of that event. Essentially, they believe that their thoughts can predict or influence outcomes of events in which they have no control. Furthermore, Rachman (1993) also noted that thought-action fusion beliefs are rigid and adhesive. This illustrates that individuals who use thought-action fusion thinking are characterized by an inflexibility of using other thinking styles. This irrationality (Makros & McCabe, 2001)

and rigidity (Marcia, 1966) is also reflected in individuals who are stuck in a state of identity diffusion or identity foreclosure. Both identity diffusion and foreclosure are states where the adolescent has not experimented with alternative ideals and roles (Marcia, 1966). Thus, this lack of experimentation with ideals and roles may be highly associated with inflexibility that is found within thought-action fusion thinking. Furthermore, Makros and McCabe (2001) found that irrational cognitive processes were found to be highly correlated with identity diffusion. Again, considering that I found no age differences between 15 and 18 year old in thought-action fusion thinking, I am inclined to believe that middle aged and older adolescents have similar difficulties with experimenting with alternative ways of thinking. On the broader scale, this finding may also suggest that middle aged and older adolescents may be having similar difficulties in exploring their identity and forming a stable sense of self.

Lastly, as result of my findings, I suggest that 15 and 18 year olds may be equally dependent upon egocentric thinking as they enter into formal operations. Elkind (1967) postulated that adolescents who were moving into the formal operations stage of cognitive development were likely to present more egocentric style of thinking to protect them against the hardships of managing their new cognitive abilities. This egocentric thinking is marked by thoughts of indestructibleness, a high sense of personal power over others and the world (Elkind, 1967), and frequent use of magical tendencies to interpret events (Ormont, 1969). Considering that these magical tendencies and a high sense of personal power are hallmarks of development and maintenance of thought-action fusion beliefs, it can be feasibly assumed that thought-action fusion thinking is related to higher levels of egocentric thinking (Berle & Starcevic, 2005). Furthermore, Hudson and Gray

(1986) postulated that older adolescents had the ability to shed this egocentric attitude because they had more experience developing their reality testing and abstract thinking abilities. They also noted that older adolescents were more likely to have the ability to to obtain insights from their actions and draw more logical explanations of how events occur. However, considering that I found no age differences between 15 and 18 year old in thought-action fusion thinking, I am inclined to believe that middle aged and older adolescents have similar difficulties with shedding their egocentric thoughts. Furthermore, I believe my findings present preliminary evidence that Hudson and Gray's (1986) hypothesis is inaccurate, and that middle-aged and older adolescents use similar amounts of egocentric thinking.

Overall, from my results, I suggest that 15 through 18 year olds are less distinguishable in their abilities to accurately interpret their thoughts, experiment with alternative ways of thinking, and shed their egocentric ideas. In general terms, I also believe that middle-aged adolescents may be experiencing similar difficulties compared to older adolescents with managing their new cognitive abilities, developing their sense of identity, and shedding their reliance upon egocentric thinking. However, it must be noted that I used chronological age as a measure of adolescent development. This is troublesome because researchers such as De Lisi and Staudt (1980) have noted that adolescent development does not occur within a vacuum and may fluctuate from individual to individual on when he/she masters his/her cognitive abilities and/or establishes a strong sense of self. Considering the problems with using age as a measure of adolescent development, I recommend that future researchers use more reliable measures of cognitive and identity development in determining whether middle-aged and

older adolescents differ on measures of irrational thinking (i.e. thought-action fusion beliefs).

Gender and TAF. Much like age, I found no gender differences in thought-action fusion thinking among my sample of U.S. community adolescents. These results are congruent with the findings in the Muris and colleagues (2001) study. They found no gender differences in a sample of Dutch adolescents. As a result, it appears that his results are generalizable to a sample of U.S. adolescents.

Furthermore, considering that there were no gender differences in thought-action fusion beliefs, my findings possibly negate whether male and adolescent females think differently. According to Sethi and Nolen-Hoeksema (1997), adolescent males and females think about entirely different things. They postulated that male thinking patterns emphasized more of an external focus, while female thinking patterns emphasized more of an internal focus. However, Berle and Starceiv (2005) characterized thought-action fusion thinking by a number internalized appraisal style elements such as self-reflection and rumination. Specifically, individuals who engage in thought-action fusion thinking often experience a significant amount of guilt and responsibility for having damaging thoughts that negatively affect the outcome of an event (Berle & Starcevic, 2005). As a result of this guilt and perceived responsibility, these individuals often ruminate about their perceived influence on the negative event (Berle & Starcevic, 2005). Rumination, in this sense, is a process whereby an individual continually thinks about how he or she is to blame for the occurrence of the negative events.

In addition, Berle and Starcevic (2005) also noted that thought-action fusion thinking affects an individuals' opinion of his or her self-worth. They noted that if

individuals continue to use thought-action fusion thinking as the primary thinking style that they were likely to obtain a sense of hopelessness regarding their ability to maintain healthy relationships with people. Specifically, Berle and Starcevic (2005) noted that these individuals will accumulate a significant amount of blame for the occurrence of negative outcomes within a relationship. These people often feel that they are the cause of the dysfunction within the relationship and claim that they only hurt the people that they love. Through these self-reflective thoughts these individuals consider themselves as "bad people" who cannot be productive within relationships (Shafran, et. al., 1996). Considering that both males and females engage in similar amounts of thought-action fusion thinking, I believe that researchers have to take into consideration that adolescent males do engage in some forms of internalized thinking (i.e. rumination and self-reflection). As a result, I believe that male and female adolescents are not as discrepant in their thinking styles as Sethi and Nolen-Hoeksema (1997) findings lead us to believe.

However, my results also suggest that thought-action fusion thinking may be more complex then a simple appraisal style. Specifically, there appears to be a strong element of faulty information processing, whereby an individual fuses coincidental co-occurrences of a thought and an event develops an erroneous causal link between the two (Berle & Starcevic, 2005). This line of thinking characterizes thought-action fusion beliefs as more of a function of a cognitive distortion. According to Leung and Wong (1998), cognitive distortions refer to the processes where information gleaned from external events engender a significant amount of systematic bias that hinder one's ability to effectively test reality. In regards to thought-action fusion, the fusion of the intrusive thought and the forbidden action disrupts the ability of the individual to accurately

interpret the cause of certain events or outcomes. In addition, Rachman (1993) noted that there is an adhesive quality about thought-action fusion thinking, whereby individuals who use thought-action fusion to interpret the outcome of one event are likely to use thought-action fusion thinking for future interpretations of events. Furthermore, according to Wilde (1994), gender differences do appear to exist in other cognitive distortion constructs (i.e. automatic beliefs and irrational thoughts). As a result, I believe that thought-action fusion beliefs should be considered a type of cognitive distortion that hinders an adolescent's ability to accurately test reality.

Race and TAF. An interesting result of this study was the discovery of racial differences in a particular type of thought-action fusion belief. Specifically, African-American adolescents appear to engage in more thought-action fusion likelihood thinking compared to their Caucasian counterparts. Again, thought-action fusion likelihood beliefs are characterized by the idea that thinking of an unacceptable or disturbing event will increase the likelihood of that event actually occurring**.** One reason why African-American may be predisposed to the thought-action fusion likelihood beliefs is their ties with their local church or religious community (Stack & Wasserman, 1995). Stack and Wasserman (1995) found that African-American adolescents and young adults are more likely to spend a significant time developing the spiritual self at church or church related events. This is important because Berle and Starcevic (2005) noted that adherence to religious doctrine may be associated with the onset of certain thought-action fusion beliefs. They hypothesized that the onset of thought-action fusion is heavily influenced by strict belief systems and behavioral codes that are perceived to be imbued upon that person by an authoritative figure. Berle and Starcevic (2005) noted that religion may act

as the authoritative figure that presents it congregation with a clear and strict set of

behavioral codes. This is not to say the religion is the cause of thought-action fusion

thinking, however, it appears that people with personality traits congruent with the strict

behavioral codes of religious doctrine may be more likely to engage in thought-action

fusion thinking. Such characteristics that appear to be congruent with both thought-action

fusion thinking and adherence to a specific religious doctrine are a rigid interpretation of

their beliefs, a person's conviction, and/or an excessive fear of being punished or

criticized. Consequently, Rassin and Koster (2003) found that individuals who attend

more religious services and events are likely to have a cognitive style that is congruent

with thought-action fusion thinking. Overall, it appears that African-American

adolescents may be more prone to engage in more thought-action fusion likelihood

thinking because of the characteristics (i.e. a rigid interpretation of their beliefs, a

person's conviction, and/or an excessive fear of being punished or criticized) that are

fostered with in a religious community.

Additionally, this finding is especially interesting considering that we know

relatively little about what cognitive risk factors contribute to the onset and/or

exacerbation of emotional distress in African-American adolescents. Considering that

African-American adolescents appear to have higher levels of sensitivity to anxious

(Rabian, Embry, & MacIntyre, 1999) and depressive symptoms (Emslie, Weinberg,

Rush, Adams, & Rintelmann, 1990) thought-action fusion beliefs may be able to predict a

significant amount of emotional distress in African-American adolescents. Future

researchers need to examine the potential of thought-action fusion beliefs to act as

antecedents to anxious and depressive symptoms in both clinical and non-clinical samples of African-American youth.

Clinical Implications

I believe my findings highlight the importance for mental health professionals to take into consideration adolescent development and ethnic background when identifying cognitive risk factors that are contributing to the onset and/or exacerbation of adolescent emotional distress. My results show that middle age adolescents and older adolescents may be having similar difficulties with thought-action fusion thinking. Essentially, middle-aged adolescents may have similarly difficult times in interpreting their thoughts, experimenting with alternative ways of thinking, and shedding their egocentric attitudes. Interestingly, these difficulties may also underlie individuals who are transitioning from one developmental stage to the next (i.e. concrete operation to formal operations or identity diffusion/foreclosure to identity achievement). As a result, thought-action fusion thinking may be a result of developmental struggles to obtain mastery over one's new abstract thinking abilities and/or a stable sense of self.

In light of the previous findings, therapists need to foster a strong self-efficacy within adolescents who engage in thought-action fusion thinking so that they may effectively manage their new cognitive abilities and develop a strong sense of self. One of the more prevalent tasks a therapist might need to take is to constructively challenge and restructure the adolescent's thought-action fusion beliefs. By challenging and restructuring these beliefs, the therapist will be effectively helping the adolescent construct a more rational and practical style of thinking. This will help adolescents accurately interpret their perceptions about the causes of events, which in turn may

reduce the amount of emotional distress they are experiencing. Also by challenging and restructuring their faulty beliefs, the therapist is helping the adolescent build a stable foundation where they will be able to construct their identity and shed their dependence upon egocentric thinking. Overall, therapists have the ability to help their adolescent clients move through their developmental stages and reduce the amount of emotional distress they experience through fostering a high sense of self-efficacy and constructively challenging and restructuring their irrational and impractical thought-action fusion beliefs.

Furthermore, my results highlight the need for therapists to recognize the influence of ethnic and cultural differences in cognitive variables on the onset and/or exacerbation of emotional distress. It appears African-American adolescents engage in more thought-action fusion thinking compared to Caucasian adolescents. The prevalence of thought-action fusion thinking in African-American adolescents may be related to a rigid interpretation of their beliefs, a person's conviction, and/or an excessive fear of being punished or criticized that they have fostered through their involvement within their religious community (Rassin & Koster, 2003). Furthermore, while engaging in religious activities and beliefs may act as a barrier to suicidal activity (Stack & Wasserman, 1995) for African-American adolescents, it may also increase the likelihood of them experiencing mild to severe anxious and depressive symptoms through thought-action fusion beliefs (Berle & Starcevic, 2005). However, the major barrier for therapists in treating clients from a different cultural or ethnic background is to be able to challenge the irrational beliefs (thought-action fusion beliefs) system of the client, while still appreciating the clients' cultural background. Therapists cannot simply charge into

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therapy and challenge beliefs that are the cornerstones of the client's culture. The therapist must successfully reconstruct maladaptive aspects of the irrational beliefs, while still accepting the client's culture and desire to adhere to his/her cultural norms. If therapists can treat clients within the framework of their culture, then the bond between the client and therapist remains strong and the client may still be able to obtain a significant amount of insight regarding the irrationality and the negative affects of his or her beliefs. Overall, it is important for the therapist to identify and treat irrational beliefs (thought-action fusion beliefs) within the cultural context of the client. The therapist must takes step to provide the client with symptom relief and a chance for a higher quality of life without removing the client from his/her desired cultural community.

Suicide Proneness

> *Assessment.* In this study, I used the LAS-SF to measure suicidal prone behavior, thoughts, and feelings. Overall, I found the LAS-SF to be a valid and reliable measure of the total suicide prone behaviors, thoughts, and feelings. However, I did not find the LAS-SF subscales scores (death-related, health-related, injury-related, and self-related) to be reliable measures. Each subscale measure had a reliability coefficient lower then the .70 cutoff score. As a result, future researchers may need to be a little hesitant in using the LAS-SF sub-scale scores in assessing specific types (i.e. death-related, health-related, injury-related, and self-related) of suicidal prone behaviors, thoughts, and feelings in a community sample of adolescents**.** However, future researchers should feel comfortable in using the LAS-SF total score in assessing a wide range of suicide prone behaviors, thoughts, and feelings.

Demographics. Another interesting result of this study was the discovery of gender differences in the total suicide proneness score. It appears that adolescent males engage in more suicide prone behaviors, thoughts, and feelings compared to adolescent females. This finding is consistent with Langhinrichsen-Rohling and colleagues (1998) results. Specifically, Langhinrichsen-Rohling and colleagues (1998) found that community adolescent males reported higher suicide proneness scores compared to their female counterparts. In essence, both sets of results support the notion that males may have more impulsive/sensation seeking tendencies compared to their female counterparts. Furthermore, these results are consistent with adolescent males' higher rates of lethal suicide attempts and higher completion percentage (National Center for Injury Prevention and Control, 2005).

In theory, one can explain these findings by looking at the tenets of the gender-role socialization hypothesis. Specifically, the gender-role socialization hypothesis states that male adolescents are more likely to assert their independence and "superior prowess" by engaging in risky, self-destructive, and sensation seeking behavior, whereas female adolescents tend be more introspective engaging in more self-care and healthy behaviors (Langhinrichsen-Rohling et. al., 1998). Overall, it appears that the difference between males and females on suicide prone behavior, thoughts, and feelings may be a function of culture specific norms of gender-roles (Langhinrichsen-Rohling et. al., 1998).

Clinical Implications

One implication of this research is the need for therapists to establish gender specific interventions for clients who suffer from suicidal thoughts, feelings, and behaviors. Specifically, adolescent male interventions should focus on reducing

engagement in risky behavior, exploring and possibly re-shaping decision making processes, and identifying more socially appropriate means for them to explore their identity as a man. Alternatively, interventions for adolescent female should focus more reconstructing self-defeating processes that cause more depressive and hopeless feelings (Langhinrichsen-Rohling et. al., 1998).

Thought-Action Fusion and Suicide Proneness

In this study, I also examined the relationship between the two subscales of thought-action fusion (TAF-Moral and TAF-Likelihood) and suicide proneness. The only statistically significant association was the positive one between thought-action fusion likelihood and suicide proneness. Furthermore, I entered the two thought-action fusion subscales into a multiple regression equation to determine how much variance they predicted in the criterion variable suicide proneness. I found that the combination of the two thought-action fusion subscales predicted a statistically significant amount of variance (4%) in suicide proneness. Post-hoc analysis revealed that both thought-action fusion moral and thought-action fusion likelihood beliefs were significant predictors of suicide proneness.

Although there was a statistically significant positive association between thought-action fusion likelihood beliefs (the belief that thinking of an unacceptable or disturbing event will increase the likelihood of that event actually occurring) and suicide proneness (highly predictive behaviors, thoughts, and feelings of suicide completion), the association was so small that there does not seem to be much practical significance tied to the relationship. Additionally, the finding that the combination of thought-action fusion beliefs predicted only 4% of the variances in suicide proneness scores confirms that there

is little practical significance between the thought-action fusion beliefs and suicide proneness in adolescents. Therefore, although previous research has discovered that the thought-action fusion subscales have been moderate predictors of such emotional distress as anxiety (Barrett & Healy, 2003) and depression (Muris et. al., 2001), thought-action fusion beliefs do not appear to have much of an influence upon the onset and/or exacerbation of suicide prone behaviors, thoughts, and feelings. Specifically, I believe that the proclivity of adolescents to fuse thoughts and actions together is a weak indicator of individuals who engage suicidal prone behaviors (i.e. drinking and self-mutilating), thoughts (i.e. "I am worthless" and "I am not a good person"), and feelings (i.e. anger and indifference).

However, due the small reliability coefficients for the subscales measures of the LAS-SF (i.e. death-related, health-related, injury-related, and self-related), I was not able to report any associations between the two subscales of thought-action fusion (TAF-Moral and TAF-Likelihood beliefs) and the subscales measures of the LAS-SF. Instead, I had to substitute the four subscales measures of the LAS-SF with the LAS-SF total score which is an all encompassing measure of suicidal thoughts, feelings, and behaviors. It might be possible that by lumping suicide proneness into one encompassing total construct, I might have missed an important association between a type thought-action fusion belief (Moral and/or Likelihood) and a narrower measure (i.e. death-related, health-related, injury-related, and/or self-related) of suicide proneness. For example, Berle and Starcevic (2005) noted that thought-action fusion beliefs may actually cause a decrease in one's self-esteem, therefore there could have been a practically significant association between thought-action fusion beliefs and self-related suicide prone

behaviors, thoughts, and feelings (i.e. "I feel worthless" and "I feel as if I am a good person"). Unfortunately, the self-related suicide prone construct had only six-items, which negatively affected its reliability coefficient. As a result, future researchers need to use a more reliable instrument of specific types of suicide proneness subscales when measuring the association between suicide proneness and thought-action fusion beliefs.

Furthermore, although there were no practically significant results that spoke to the direct influence of thought-action fusion beliefs on suicide proneness, thought-action fusion beliefs might be indirectly associated to suicide proneness through constructs such as depression and anxiety. Thought-action fusion beliefs have been firmly established as a strong correlates of anxiety (Hazlett-Stevens, et al., 2003, Rassin, et. al., 2001a; Rassin, et. al., 2001b). Furthermore, recent researchers have found preliminary evidence that thought-action fusion beliefs may be an antecedent of depressive symptoms (Abramowitz et al., 2003; Muris et al., 2001; Rachman et al., 1995; Rassin, Merckelbach, et al., 2001; Shafran et al., 1996). Considering that both depression (Boergers, et. al., 1998; Trautman, Rotheram-Borus, Dopkins, & Lewin, 1991) and anxiety (Kosky, Silburn, & Zubrick, 1990; Trautman, et. al., 1991) are highly predictive of suicidality in adolescents, it is plausible to assume that thought-action fusion beliefs may act through anxiety and depression in contributing to the onset and/or exacerbation of suicidality. In the future, it is important for researchers to establish more concrete evidence of the role of thought-action fusion beliefs in the onset of depressive and anxious symptoms with clinical and non-clinical samples of adolescents. If researchers find that thought-action fusion beliefs are antecedents to depressive and anxious symptoms, then they can conduct more complex research designs (i.e. structural equation modeling) to determine if thought-

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action fusion beliefs have an indirect influence on suicidality through depressive and anxious symptoms.

Clinical Implications

Considering that thought-action fusion beliefs have only a small association with suicidal proneness, mental health practitioners should probably treat suicidal symptoms by focusing on more predictive symptoms of suicide (i.e. depression and anxiety). By treating depression and anxiety related symptoms, therapists should be able to see a dramatic reduction in the suicidal behaviors and thoughts in their adolescent client. However, Donaldson and colleagues (2003) noted that treating the symptoms directly related to adolescent suicidality might be necessary but not sufficient in order to prevent future relapse. As a result, therapist may need to address underlying processes that may be preventing the therapeutic change in their clients. For instance, if a therapist feels that his/her client's depressive and anxious symptoms are deeply rooted in the client's faulty cognitive processes, then the therapist may need to identify and then addresses these maladaptive cognitive process in order to reduce the depressive or anxious symptoms. One type of cognitive process that might act as an antecedent for depressive and anxious symptoms is thought-action fusion beliefs. As a result, if therapists are having a difficult time treating the most predictive symptoms (i.e. anxiety and depression) of suicidality in adolescents, they may need to identify and address more deeply rooted cognitive processes (i.e. thought-action fusion beliefs) that may be hindering the reduction of these symptoms. In such a case, the reconstruction of thought-action fusion beliefs (or other similar cognitive processes) may indirectly pave the way for reduction of suicidal symptoms.

Limitations

Through the course of this study, I noticed some significant limitations that hindered the usefulness and generalizability of my results. Specifically, there were limitations regarding the research design, participant sample, and the measures used to survey the participants that need to be considered in interpreting my results.

Research design. The most glaring limitation of my study was the method in which the data was collected. Specifically, results were based solely on self-report responses. Self-response surveys are subjective in nature and often can be influenced by social desirability demands and response biases. As a result, it is possible that these confounds (i.e. social desirability and response biases) may hinder the generalizability of these results to similar samples across the U.S. Another limitation in my design is the cross sectional approach to data collection. By using a cross-sectional design, I am not able to speak to how these variables will interact across time. Therefore, time might be another confounding variable that hinders the generalizability of my results. Lastly, the analyses in which I used do not speak of the causal relationship among thought-action fusion beliefs and suicide proneness. My results only produced the association between thought-action fusion beliefs and suicide proneness. They do not address the possibility that thought-action fusion beliefs cause suicide proneness actions, feelings, or behaviors in community adolescents. More complex research designs need to be constructed in order to test the causal relationship between thought-action fusion beliefs and suicide proneness in a sample of community adolescents.

Participant sample. Some variables within my participant sample may also negatively affect my ability to generalize my results. Specifically, I only collected data

from high school Seniors, Juniors, and Sophomores. I was not able to collect data from high school Freshmen. It is possible that high school Freshmen may experience thought-action fusion and suicide proneness differently compared to more academically advanced students. Therefore, a lack of Freshmen participants may hinder my ability to generalize my findings to another sample of high school students. Additionally, I noticed, through recruiting participants and entering data, that my sample had a significant number of students who were academically delayed. This may also hinder my ability to generalize these findings to another sample of high school students. Furthermore, while the participant sample was relatively diverse (in regards to Caucasian, Africa-American, and bi-racial students), I was not able to garner any information on Latino, Asian-American, and Native American adolescents. Specifically, I was not able to determine whether thought-action fusion beliefs are significant risk factors to Latino, Asian-American, and Native-American high school students. Furthermore, I was not able to analyze any data regarding the prevalence of suicide prone actions, feelings, and thoughts in Latino, Asian-American, and Native American students compared to Caucasian and African-American students.

Measures. Lastly, there were some limitations regarding the measures I used to survey my sample. First, I used age and academic class as measures of adolescent development. Previous research has shown that there is a significant amount of variability in adolescent development in regards to age and academic class (De Lisi & Staudt, 1980). Therefore, while age and academic class may be associated with adolescent development, it should not be considered synonymous with adolescent development. Therefore, age and academic class may not be valid measures of adolescent development, which could

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affect the implications of my results. Future researchers need to examine thought-action

fusion beliefs in regards more reliable measures of adolescent development. Secondly, I

found that LAS-SF is not a reliable instrument in measuring the four-subscale measures

of suicide proneness (death-related, health-related, injury-related, and self-related actions,

feelings, and thoughts). I found that the reliabilities of these sub-scales were poor. As a

result, I was not able to draw any specific conclusions regarding which type of suicide

prone actions, feelings, and thoughts were associated with thought-action fusion beliefs.

Future researchers should be wary of using the four subscale measures of the LAS-SF

when sampling community adolescents.

Recap of Future Directions for Research

As I noted throughout this chapter, my research has opened up a large number of

opportunities for future researchers to expand on my research. Specifically, I believe that

there are four major areas in which researchers can expand upon my research findings.

In response to my results, I implied that thought-action fusion thinking may be a

product of development. Unfortunately, I used chronological age as my measure of

adolescent development. According to De Lisi and Staudt (1980), age is not a sound

measure of adolescent development because it does not account for the variability in how

adolescents mature cognitively, behaviorally, and interpersonally. As a result, I

recommend that future researchers attempt to determine the influence of development

(i.e. cognitive and identity) on the onset and/or the exacerbation for thought-action fusion

beliefs. Specifically, I would like to see the association between a sound measure of

cognitive development (particularly concrete operations and formal operations) and

thought-action fusion beliefs and the association among Marcia's stage of identity development and thought-action fusion beliefs.

Second, my results indicated that thought-action fusion may be a prevalent risk factor in the onset of emotional distress for African-American adolescents. This is a fascinating finding because we have a scant amount of literature that speaks to cognitive vulnerability factors that are prevalent in adolescent African-American mental health. I recommend that future researchers take an in depth look at the role of thought-action fusion beliefs in the onset such emotional distress symptoms as depression and anxiety in African-American youth.

Third, I was not able to obtain associations among specific types (i.e. death-related, health-related, injury-related, and self-related) of suicide prone thoughts, feelings, and behaviors and types of thought-action fusion beliefs (moral and likelihood) due to the small coefficients of the LAS-SF subscales. I recommend that future researchers use the LAS long form in order to obtain content specific associations between types of suicide prone thoughts, feelings, and behaviors and thought-action fusion beliefs.

Lastly, although I did not find any practically significant, direct associations between thought-action fusion beliefs and total suicide prone thoughts, feelings, and behaviors that does not mean that thought-action fusion beliefs do not influence the onset and/or exacerbation of suicide prone thoughts, feelings, and behaviors in community adolescents. I recommend that future researchers look at the indirect relationship between thought-action fusion beliefs and suicidality through potential mediating variables as obsessions and compulsions, anxiety related symptoms (i.e. pathological worry), and

depressive symptoms. This type of research study calls for a more complex research design such as structural equation modeling.

Summary

Overall, it appears that thought-action fusion beliefs are prevalent type of cognitive process in community adolescents. Moreover, the TAFQ-A appears to be a reliable measure of both thought-action fusion moral and thought-action fusion likelihood beliefs in U.S. community adolescent. There appears to be no age, academic class, and gender differences in thought-action fusion beliefs. However, I did find that African-American adolescents report engaging in more thought-action fusion likelihood beliefs compared to Caucasian adolescents. This finding may be important in understanding the maladaptive cognitive processes that contribute to emotional distress in African-American adolescents. Consistent with previous research, I found that there are gender differences in suicide proneness. Specifically, adolescent males engage in more risky behavior that leads to suicide completion compared to adolescent females. This finding is important in that males might need treatment plans that focus on a combination of impulsive/sensation seeking behavior and ruminative and self-reflective processes, while females may require treatment plans that focus more on self-defeating thought patterns. Lastly, although there was a small statistically significant relationship between thought-action fusion likelihood and suicide proneness, I feel that this relationship should be viewed cautiously as any substantive significance was assessed as low. However, I feel that with further research, thought-action fusion beliefs may be found to have an indirect relationship with suicide proneness through anxiety and depression. Overall, further

research needs to be conducted to confirm my results and address the limitations of my

study.

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APPENDIX A

DATA TABLES

Table 1

Means and Standard Deviations of Four Main Psychological Measures

Scales	Means	Standard Deviations
TAFQ-A Total	26.19	7.15
TAFQ-A Moral	16.74	5.67
TAFQ-A Likelihood	9.50	3.00
LAS-SF Total	6.00	3.69

Note: TAFQ-A = total scores on the Thought-Action Fusion Questionnaire Adolescent
Version, TAFQ-A Moral = total Moral Beliefs score on the Thought-Action Fusion
Questionnaire Adolescent Version, TAFQ-A Likelihood = total Likelihood Beliefs score
on the Thought-Action Fusion Questionnaire Adolescent Version, and LAS-SF Total =
total score on the Life Attitudes Schedule-Short Form.

Table 2

Means and Standard Deviations for Adolescent Males and Females on TAF-Moral, TAF-Likelihood, and LAS-SF Total Score.

Scale	Males (N = 115) Means (SD)	Females (N = 145) Means (SD)
TAF-Moral	16.25 (5.80)	17.12 (5.55)
TAF-Like	9.71 (3.13)	9.34 (2.84)
LAS-SF Total	6.74 (3.98)**	5.41 (3.35)**

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness.
** = Gender differences significant at the .01 level
* = Gender differences significant at the .05 level

Table 3

Mean and Standard Deviations for 15 through 18 year olds on the TAF-Moral, TAF-

Likelihood, LAS-SF Total Score

Scales	15 y/o (N = 26) Means (SD)	16 y/o (N = 55) Means (SD)	17 y/o (N = 50) Means (SD)	18 y/o (N = 122) Means (SD)
TAF-Moral	18.69 (5.36)	16.31 (5.46)	16.88 (5.55)	16.48 (5.88)
TAF-Like	9.85 (4.01)	9.44 (2.56)	9.36 (2.88)	9.48 (2.98)
LAS-SF Total	6.12 (3.20)	5.82 (4.55)	5.16 (3.18)	6.42 (3.64)

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness. A superscript A indicates that the mean differs significantly from 15 year olds. A superscript B indicates that the mean differs significantly from 16 year olds. A superscript C indicates that the mean differs significantly from 17 year olds. A superscript D indicates that the mean differs significantly from 18 year olds.

Table 4

Mean and Standard Deviations for Seniors, Juniors, and Sophomores on the TAF-Moral,

TAF-Likelihood, LAS-SF Total Score

Scales	Seniors (N = 139) Means (SD)	Juniors (N = 49) Means (SD)	Sophomores (N =72) Means (SD)
TAF-Moral	16.53 (5.62)	16.94 (6.00)	16.96 (5.59)
TAF-Like	9.58 (3.12)	9.04 (2.21)	9.68 (3.14)
LAS-SF Total	6.22 (3.49)	5.59 (3.65)	5.83 (4.10)

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness. A superscript A indicates that the mean differs significantly from Seniors. A superscript B indicates that the mean differs significantly from Juniors. A superscript C indicates that the mean differs significantly from Sophomores.

Table 5

Mean and Standard Deviations for Caucasian, African-American, and Bi-racial

Adolescents on the TAF-Moral, TAF-Likelihood, LAS-SF Total Score

Scales	Caucasian (N = 143) Means (SD)	African-American (N = 54) Means (SD)	Bi-Racial (N = 28)
TAF-Moral	17.41 (5.60)	16.14 (5.89)	15.71 (5.52)
TAF-Like	9.00 (2.47)^B	10.24 (2.83)^A	9.86 (4.46)
TAF-SF Total	6.36 (3.98)	5.09 (2.80)	6.21 (4.01)

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness. A superscript A indicates that the mean differs significantly from Caucasian Adolescents. A superscript B indicates that the mean differs significantly from African-American Adolescents. A superscript C indicates that the mean differs significantly from Bi-Racial Adolescents.

Table 6

Cell Means and Main Effects for Age and Gender on TAF-Moral and TAF-Likelihood

	Males Means		Females Means		Main Effects	
	TAF-M	TAF-L	TAF- M	TAF-L	TAF-M	TAF-L
15 y/o	18.40	9.70	18.87	9.94	**18.69**	**9.84**
16 y/o	16.30	8.88	16.31	9.72	**16.30**	**9.43**
17 y/o	15.38	10.23	17.40	9.05	**16.88**	**9.36**
18 y/o	16.03	9.86	16.93	9.00	**16.48**	**9.48**
Main Effects	**16.23**	**9.66**	**17.16**	**9.33**	**Grand TAF-M Mean = 16.73** **Grand TAF-L Mean = 9.50**	

Note: TAF-M = Thought-Action Fusion Moral Beliefs and TAF-L = Thought-Action Fusion Likelihood Beliefs. Results indicated that there was no significant interaction effect between age and gender. There were also no significant main effects for either age or gender.

Table 7

Cell Means and Main Effects for Academic Class and Gender on TAF-Moral and TAF-

Likelihood

	Males Means		Females Means		Main Effects	
	TAF-M	TAF-L	TAF- M	TAF-L	TAF-M	TAF-L
Sophomores	16.51	9.18	17.38	9.94	**16.98**	**9.59**
Juniors	17.00	9.95	16.89	8.37	**16.93**	**9.02**
Seniors	15.87	9.83	17.06	9.30	**16.53**	**9.53**
Main Effects	**16.23**	**9.66**	**17.16**	**9.33**	**Grand TAF-M Mean = 16.73** **Grand TAF-L Mean = 9.50**	

Note: TAF-M = Thought-Action Fusion Moral Beliefs and TAF-L = Thought-Action Fusion Likelihood Beliefs. Results indicated that there was no significant interaction effect between academic class and gender. There were also no significant main effects for either academic class or gender.

Table 8

Correlations among TAF-Moral, TAF-Likelihood, and LAS-SF Total

Scales	TAF-Moral	TAF-Likelihood	LAS-SF Total
TAF-Moral	1.00	.30**	-.07
TAF-Likelihood		1.00	.15*
LAS-SF Total			1.00

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action
Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness.
** = Gender differences significant at the .01 level
* = Gender differences significant at the .05 level

Table 9

Results of the Multiple Regression Analysis of TAF-Moral and TAF-Likelihood on LAS-

SF Total

	B	Beta	Std. Error	F	R^2
LAS-SF Total				4.82	.04**
TAF-Moral	-.08	.13*	.04		
TAF-Likelihood	.23	.19**	.08		

Note: TAF-Moral = Thought-Action Fusion Moral Beliefs, TAF-Like = Thought-Action
Fusion Likelihood Beliefs, and LAS-SF Total = Total Suicide Proneness.
** = Gender differences significant at the .01 level
* = Gender differences significant at the .05 level

APPENDIX B

PARENTAL INFORMED CONSENT

PARENTAL/GUARDIAN PERMISSION FORM: THOUGHT ACTION FUSION AND RISKY BEHAVIORS

Dear Parents/Legal Guardians,

We would like to invite your child to participate in a study that looks at risk and/or protective factors that influence adolescents' potential to engage in risky behaviors and self-defeating thought patterns. This study will take place at your son/daughter's high school. Your child will be asked to fill out a survey that is made up of a series of self-surveys about specific behaviors and thinking patterns that adolescents engage in everyday life. Specifically, your adolescent will be asked about how his/her thoughts about a situation affect the actual occurrence of the situation (For example: Pretend that you believe that you are going to have trouble passing an upcoming English test. In your opinion, does your thought of failing the test increase the chance that you will actually fail the test?). Your son/daughter will also be asked about some of his/her engagement in risky behaviors and self-defeating thought patterns (i.e. not wearing one's seatbelt, eating unhealthy foods, listening to music with a violent/death theme, thinking frequently of death/suicide, and do you believe yourself to be a good person). This project in not an intervention, we are simply collecting your sons and daughter's responses to a few self-survey questions.

Although answering some questions may make some people feel uncomfortable, we do not feel that your son/daughter is in any great harm by participating in this research. However, your child will be free to skip any question(s) that makes him/her feel uncomfortable. Additionally, your child will also have the right to cease participation of the study at any point during the survey. Lastly, if your son/daughter feels upset after taking the survey, we will provide them with the opportunity to speak with a professionally trained counselor and provide them with a list of resources where they can receive more aid outside of the school setting. While your child may not directly benefit from participating in this research, this information to which he/she provides will help mental health officials and school counselors better understand which behaviors and thoughts are more likely protect or contribute to adolescents engaging in risky behaviors and self-defeating thought patterns. In turn, this should help prevent more accidents and violence within the school and familial environment.

If your child brings back this formed signed by you (no matter if you say no or yes to their participation in the study) they will receive a small incentive (generally a candy bar or something similar that complies with your son/daughter's school regulations). Moreover, for every child that participates and completes the survey, the researcher will give one dollar to the student government to help pay for student activities (i.e. proms or field trips).

All information your child provides will be anonymous. His or her information will be identified by code number only. His or her name will not be placed anywhere on the survey, except possibly on the last page. The last page of the survey offers your child the opportunity to speak to mental health professional if they feel any type of distress from taking the survey. We will ask you child to sign his/her name on the last page if they would like to speak with a mental health professional. Although we do not expect that many adolescents will need to speck with a mental health professional, we want to make sure that every adolescent who completes the survey has a chance to reduce any stress caused from participating in the study. The researcher will tear the last page of the

survey off of the packet so it will not be identified with any of your child's responses. If by chance your child tells one of the research members that he/she is going to hurt himself/herself, another, or is being abused at home, we must take steps to ensure that your child is safe. All information will be stored in a lock file cabinet in the primary researcher's office. Only the primary researchers will have access to the data. The information your child provides will be lock and kept safe for five years. After the five years are up, all information collected from this project will be destroyed. Individual responses to the survey will not be published in any manner. Only group information will be presented in any publications generated from this research, your child will not be personally identified in any way.

If you wish to have a more thorough assessment of you child's emotional health or if you are concerned about some of your child's current behavior, I have negotiated for the services of Teen Screen to be available to assess your child free of cost. Teen Screen is Mental Health Association of Tulsa sponsored program that provides high school students the chance to talk about their difficulties with a trained professional. The trained professional will come into the high school and take your son/daughter out of class and have them take an assessment on a lap top computer. The assessment should only take about twenty to forty minutes depending how long the interview lasts. The computer assesses your child for drug/alcohol risk, depressive and anxious symptoms, and physical health needs. Once the student has completed the survey, the trained professional will discuss some of their responses with them. If the trained professional is concerned about some of their behavior, they will make contact with you and discuss with you some of your child physical and emotional needs. This program is not associated directly to the study, it is just a service that will be offered in case you (the parents/legal guardians) want a through assessment of you child's emotional health and/or concerned about some of your child's current behavior. If you are interested in this program please notify us by checking the appropriate space below and we will send you more specific information regarding Teen Screen including a permission form for your son/daughter to be assessed. If you have any questions or concerns regarding the study, you can contact Jeff Klibert M.S. or Dr. Jan Bartlett, Ph. D. at (405) 744-2104. If you have questions about your child's rights as a volunteer, you may contact Dr. Sue C. Jacobs, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu.

I have read and fully understand the consent form.
As parent or guardian I would like _____(print child's name)

_____to participate in the described research.
_____not to participate in the research above
_____to participate in the research above and send me information on Teen Screen.
_____ not to participate in the research above, but send me information on Teen Screen.

_____   _____
Parent/Guardian Name (printed)   Date

_____   _____
Signature of Parent/Guardian   Date

APPENDIX C

ADULT INFORMED CONSENT

CONSENT FORM FOR STUDENTS OLDER THEN 18 OR WHO HAVE BEEN EMANCIAPTED FOR THOUGHT ACTION FUSION AND RISKY BEHAVIORS

Currently, at your high school, we are conducting research on risk and/or protective factors that influence adolescents' potential to engage in risky behaviors and self-defeating thought patterns. If you agree to participate in the study, you will be asked to fill out a survey that is made up of a few questionnaires about specific behaviors and thinking patterns that you do in everyday life. Specifically, you will be asked about how your thoughts about a situation affect the actual occurrence of the situation (For example: Pretend that you believe that you are going to have trouble passing an upcoming English test. In your opinion, does your thought of failing the test increase the chance that you will actually fail the test?). You will also be asked about some risky behaviors you might do and self-defeating thought patterns (i.e. not wearing one's seatbelt, eating unhealthy foods, listening to music with a violent/death theme, and do you believe yourself to be a good person).

Although answering some questions may make some people feel uncomfortable, we do not feel that you are in any great harm by participating in this research. However, you will be free to skip any question(s) that makes you feel uncomfortable. Additionally, you also have the right to stop participation of the study at any point during the survey without penalty. If you feel upset after taking the survey, we will provide you with the opportunity to speak with a professionally trained counselor. At the end of the survey you will be asked if you would like to talk with a mental health professional. If you decide you would like to talk with a mental health professional we will ask you to indicate so by printing your name on the last page in the appropriate section. The last page will be torn off from the rest of the data and will not be used to identify your responses in any way. At the end of the survey everyone will get a list of resources that may help individuals who want to talk to someone outside of school. While you may not directly benefit from participating in this research, the information you give will help mental health officials and school counselors better understand which behaviors and thoughts are more likely protect or contribute to adolescents engaging in risky behaviors and self-defeating thought patterns. In turn, this should help prevent more accidents and violence at school and in the family or with friends.

If you bring back the consent form (no matter if you say no or yes to their participation in the study) you will receive a small incentive (generally a candy bar or something similar that complies with your son/daughter's school regulations). Moreover, if you choose to participate and complete the surveys, the researcher will give one dollar to the student government to help pay for student activities (i.e. proms or field trips).

All information you provide us with will be anonymous. This means that we do not want to know which survey packet is yours; your answers will not be identified with you. Please do not put your name anywhere on the survey except on the separate last page if you wish to speak to me, a school counselor, or other mental health professional. Your information will be identified by code number only. All information will be stored in a locked file cabinet in my office. My supervisor and I will be the only people who will see your responses, however we will not able to tell which response goes with which person. The information you provide will be locked and kept safe for five years. After the five years are up, all information collected from this project will be destroyed. Individual

responses to the survey will not be published in any manner. Only group information will be presented in any publications generated from this research, you will not be personally identified in any way.

If you would like a more thorough assessment of your emotional health, I have negotiated for the services of Teen Screen to be available to assess you free of cost. Teen Screen is Mental Health Association of Tulsa sponsored program that provides high school students the chance to talk about their difficulties with a trained professional. The trained professional will come into the high school and take you out of class and have you take an assessment on a lap top computer. The assessment should only take about twenty to forty minutes depending how long the interview lasts. The computer assesses you for drug/alcohol risk, depressive and anxious symptoms, and physical health needs. Once you have completed the survey, the trained professional will discuss some of your responses with you. If the trained professional is concerned about some of their behavior, he/she will help you get in contact with people/agencies who can meet your emotional/physical needs. This program is not associated directly to the study; it is just a service that will be offered in case you want a thorough assessment of your emotional health. If you are interested in this program please notify us by checking the appropriate space below and we will send you more specific information regarding Teen Screen including a permission form for you to be assessed. If you have any questions or concerns regarding the study, you can contact Jeff Klibert M.S. or Dr. Jan Bartlett, Ph. D. at (405) 744-2104. If you have questions about the research and your rights as a research volunteer, you may contact Dr. Sue C. Jacobs, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu.

Signature of student over the age of 18 or who has been emancipated.

I have read and fully understand the consent form and have been given a copy to keep.

I would like _____(print your name)

_____to participate in the described research.

_____ not to participate in the research above

_____ to participate in the research above and send me information on Teen Screen.

_____ not to participate in the research above, but send me information on Teen Screen.

_____   _____
Participant's Name (printed)   Date

_____   _____
Signature of Participant   Date

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APPENDIX D

ASSENT FORM

ASSENT FOR PARTICIPATION IN RESEARCH: THOUGHT ACTION FUSION AND RISKY BEHAVIORS

Currently, at your high school, we are conducting research on risk and/or protective factors that influence adolescents' potential to engage in risky behaviors and self-defeating thought patterns. You will be asked to fill out a survey that is made up of a few self-surveys about specific behaviors and thinking patterns that you engage in everyday life. Specifically, you will be asked about how your thoughts about a situation affect the actual occurrence of the situation (For example: Pretend that you believe that you are going to have trouble passing an upcoming English test. In your opinion, does your thought of failing the test increase the chance that you will actually fail the test?). You will also be asked about some of your engagement in risky behaviors and self-defeating thought patterns (i.e. not wearing one's seatbelt, eating unhealthy foods, listening to music with a violent/death theme, and do you believe yourself to be a good person).

Although answering some questions may make some people feel uncomfortable, we do not feel that you are in any great harm by participating in this research. However, you will be free to skip any question(s) that makes you feel uncomfortable. Additionally, you also have the right to stop participation of the study at any point during the survey without penalty. If you feel upset after taking the survey, we will provide you with the opportunity to speak with a professionally trained counselor. At the end of the survey you will be asked if you would like to talk with a mental health professional. If you decide you would like to talk with a mental health professional we will ask you to indicate so by printing your name on the last page in the appropriate section. The last page will be torn off from the rest of the data and will not be used to identify your responses in any way. At the end of the survey everyone will get a list of resources that may help individuals who want to talk to someone outside of school. While you may not directly benefit from participating in this research, this information to which you provide will help mental health officials and school counselors better understand which behaviors and thoughts are more likely protect or contribute to adolescents engaging in risky behaviors and self-defeating thought patterns. In turn, this should help prevent more accidents and violence within the school and familial environment.

If you have brought back your parental consent formed signed by your parents/legal guardians (no matter if you say no or yes to their participation in the study) you will receive a small incentive (generally a candy bar or something similar that complies with your son/daughter's school regulations). Moreover, if you choose to participate and complete the surveys, the researcher will give one dollar to the student government to help pay for student activities (i.e. proms or field trips).

All information you provide us with will be anonymous. This means that we do not want to know which survey packet is yours. Please do not put your name anywhere on the survey. The only place you should put your name is at the end of the survey if you want to talk to a mental health professional. If you by chance you tell us that you are going to hurt yourself, another, or are being hurt at home I must take steps to make sure

that you are safe. All information will be stored in a lock file cabinet in my office. My supervisor and I will be the only people who will see your responses.

Signature for Participant Assent

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy of this form has been given to me.

_____   _____
Signature of Participant   Date

I certify that I have personally explained this document before requesting that the participant sign it.

_____   _____
Signature of Researcher   Date

APPENDIX E

PARTICIPANT SCRIPT

Script for Youth Cognitive Risk Factors Project

Read the Following to the Class:

"Good morning everyone, my name is (NAME). I would like to tell you about an exciting project that you can participate in. This project asks you to respond to questions about your behaviors, emotions, and your thoughts. This is also an opportunity for you to miss a little class, fill out a questionnaire, and possibly learn new things about yourself.

The reason we're asking you guys all these questions is because we think that's the best way to understand what teenagers are thinking and going through so we can provide help to those who need it. Specifically, we are also interested in seeing how thoughts and emotions are related to adaptive and risky behaviors teenagers.

If you and your parents/legal guardians have given assent/consent you may participate in the study. If you did not bring back your consent form in or if you and/or your parents do not want you to take part in the study, you will take part in an exercise provided by your teacher. For those who are taking the survey, it should only take you about a half of an hour to complete. The questions are about how you feel in different situations, and how your thoughts affect your actions. We also ask you some questions about your experiences as a teenager. We want to remind you that participating in this project is voluntary. This means that you can stop at any time, or skip any questions that may bother you. However, it would benefit us if you answer each question as honestly as you can. Please do not put your name on any of the materials. This is important because we want to keep your information confidential, this means that we will not be able to tell your answers from anyone elses. However if you write or tell us that you are going to hurt yourself, hurt someone else, or if someone is hurting you at home we are legally responsible to take steps to make sure you are safe. After you have completed the survey, one of our project team members will pick it up from you. They will also give you a sheet that provides you with some resources in case you feel bad after taking the survey. Also our team members and some of your school counselors will be available to you if you want to talk about some emotions that may arise from taking the survey. After the the researcher picks up the survey, he/she will hand out an small incenitve to those students who brought back there parental consent/informed consent form (no matter if your parents/guardians gave you premission to take the survey or not).

Does anyone have any questions?"

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APPENDIX F

TEACHERS INTRUCTIONS

TEACHER INSTRUCTIONS FOR COLLECTING AND HANDLING STUDENT INFORMDED CONSENT: THOUGHT ACTION FUSION AND RISKY BEHAVIORS

To all Teachers,

Thank you for your participation in my study "Thought action fusion and risky behaviors in community adolescent." Here are some instructions that should help both you and I with the process of collecting data in your classroom. Following these instructions are important for ethical and practical reasons. Firstly, it is my duty to protect any confidential information that either the student or the student's parents provide me with, therefore I must take steps to ensure that all information is as safe as possible. Secondly, I know you are giving up some of your precious class time and I would like to make data collection as quick and easy for everyone involved.

I will come into your classroom two weeks prior to collecting data to introduce the study to the students and hand them parental/guardian permission forms for them to take home to get signed by their legal parent/guardian. This process should only take five minutes of your class time. Upon giving the students the parental/guardian permission forms, I will ask them to have one of their parents sign the form and bring it back to you, so that you can store them for me until the date of data collection comes. It is important that you try to keep all the returning forms as secure as possible. This means storing all the permission forms in a secure location where it will near impossible for prying eyes to get a hold of who is and who is not participating in the study. It is my guess that students will be continually bringing these permission forms to you during the two weeks until I return to collect the data.

The day of data collection will come approximately two weeks after I introduced the study. It is my guess that the data collection will take 30-40 minutes of your class time. Unfortunately, not all of the students will have received permission to take the survey, and therefore will not be participating in the survey on the data collection day. For those students, it would be great if you could have a pencil and paper assignment ready for them to complete while the students with permission to participate are completing the survey. I believe that a pencil and paper task would be best for two reasons 1) hopefully they will allow for enough silence so that those taking the survey can focus solely on completing the survey in a timely manner & 2) so it would be hard for someone to identify who is taking the survey and who is completing the class task.

Overall, I truly appreciate your sacrifice of your class time. I hope this study provides a great amount of understanding and knowledge of adolescent problem behaviors and how to intervene and prevent them. If you have any questions about the study or how it will affect you and your students feel free to call me at (251) 689-0161.

Thank you for your time and effort,

Jeff Klibert

APPENDIX G

PROTOCOL

Demographic Sheet

<div style="border:1px solid black; width:180px; height:70px;"></div>

Directions: Please answer each question by filling in the blank, checking the blank, or circling the number that best describes you.

1) How old are you?   Age _____

2) Are you _____ Female or _____ Male

3) Race (Check all that apply):
  ____ a) African American/Black
  ____ b) American Indian/Native American
  ____ c) Asian/Asian American
  ____ d) Hispanic/Latino(a)
  ____ e) White, non-Hispanic
  ____ f) Other: _____

4) Who do you live with in your home? _____

5) What year are you in high school?
  ____ a) Freshman
  ____ b) Sophomore
  ____ c) Junior
  ____ d) Senior

Right now we would like to ask you how are you feeling today. Please circle the answer the best describes how you are feeling RIGHT NOW.

1) Happy	Not at all	A little	Somewhat	A Lot	Very Much
2) Bored	Not at all	A little	Somewhat	A Lot	Very Much
3) Anxious	Not at all	A little	Somewhat	A Lot	Very Much
4) Angry	Not at all	A little	Somewhat	A Lot	Very Much
5) Curious	Not at all	A little	Somewhat	A Lot	Very Much
6) Sad	Not at all	A little	Somewhat	A Lot	Very Much
7) Tired	Not at all	A little	Somewhat	A Lot	Very Much
8) Offended	Not at all	A little	Somewhat	A Lot	Very Much
9) Embarrassed	Not at all	A little	Somewhat	A Lot	Very Much
10) Excited	Not at all	A little	Somewhat	A Lot	Very Much
11) Distracted	Not at all	A little	Somewhat	A Lot	Very Much

TAFQ-A

In the next section, there are two parts to each question. Please read each section carefully and answer each response as truthfully as you can. The first section gives you a situation where you have a certain thought about your self, a family member, a friend, or a stranger. In the second section (the response section) we want to know if this specific thought is as bad as actually committing the associated act or if a particular thought increases the risk of the actual associated act occurring. There is no right or wrong answer we just want to understand how specific thoughts affect you and your actions. Please answer the responses to each question by circling the appropriate number: circle 1 is you believe that the response is not at all true, circle 2 is you believe the response is somewhat true, circle 3 if you believe that the response is pretty true, circle 4 is you feel that the response is very true.

1 = Not at all True
2 = Somewhat True
3 = Pretty True
4 = Very True

01.	You are with a friend. Suddenly without any reason you think that your friend is a stupid person.	
Response:	Having this thought is almost as bad as really saying your friend is stupid.	1…...2…...3…..4
02.	Suddenly without any reason you have the though that you are dying.	
Response	Having this thought increases the risk that you really are going to die.	1…...2…...3…..4
03.	You are alone in church standing in front of a large statue of Jesus. Suddenly you have a thought of spitting on the statue.	
Response	Having this thought is almost as bad as really spitting on the statue.	1…...2…...3…..4
04.	Suddenly without any reason you have the thought that your father is fired from his job and that there are money problems at home.	
Response	Having this thought increases the risk that your father will be fired from his job.	1…...2…...3…..4
05.	You meet a classmate. Suddenly without any reason you think of an abusing word for this person.	

Response	Having this thought is almost as bad as abusing this person.	1…...2…...3…..4
06.	Suddenly without any reason you have the thought that you are hit by a car.	
Response	Having this thought increases the risk that you really will be hit by a car.	1…...2…...3…..4
07.	You are sitting in the classroom. All your classmates are quietly working. Suddenly you have the thought of shouting at the top of your voice.	
Response	Having this thought is almost as bad as really shouting at the top of your voice in a silent class.	1…...2…...3…..4
08.	Suddenly without any reason you have the thought that you fall seriously ill.	
Response	Having this thought increases the risk that you really will fall seriously ill.	1…...2…...3…..4
09.	In a silent street, you meet a younger child. Suddenly without any reason you think of pushing the child down.	
Response	Having this thought is almost as bad as really pushing the child down.	1…...2…...3…..4
10.	Suddenly without any reason you have the thought of your father or mother being in a car accident.	
Response	Having this thought increases the risk of your father or mother really being in a car accident.	1…...2…...3…..4
11.	You walk on the street and you meet an unfamiliar person. Suddenly you have the thought of making an obscene gesture to this person.	
Response	Having this thought is almost as bad as really making an obscene gesture to this person.	1…...2…...3…..4
12.	Suddenly without any reason you have the thought that your mother is dying.	
Response	Having this thought increases the risk that your mother really is going to die sometime soon.	1…...2…...3…..4

13.	You have heard that the parents of one of your classmates are getting a divorce. Suddenly you have the thought of teasing your classmate with this information.	
Response	Having this thought is almost as bad as really teasing your classmate with this information.	1…...2…...3…..4
14.	Suddenly without any reason you have thought that you will not be able to graduate and move unto the next grade with your classmates.	
Response	Having this thought increases the risk that you really will not graduate and not move unto the next class with your classmates.	1…...2…...3…..4
15.	You come across your mother's purse. Suddenly you have the thought of stealing some money from the purse.	
Response	Having this thought is almost as bas as really stealing money from the purse.	1…...2…...3…..4

LAS.

For each of the statements below, think back over the past week and decide if the statement describes you. If the statement is true or mostly true for you, circle the T which stands for True. If the statement is false circle the F which stands for false.

01.	I take care of my possessions so they last will last as long as possible.	01.	T	F
02.	I choose to listen to music that has a death related theme.	02.	T	F
03.	I try to eat foods that are good for me.	03.	T	F
04.	I have gone on an occasional drinking spree.	04.	T	F
05.	I avoid unnecessary risks.	05.	T	F
06.	At least once a month, I have driven or have been driven more than 20 miles per hour over the speed limit.	06.	T	F
07.	I rarely do things that violate my standards.	07.	T	F

08.	I spend a lot of time things that are unproductive or unfulfilling.	08.	T	F
09.	I look forward to life.	09.	T	F
10.	I enjoy thinking about death.	10.	T	F
11.	I enjoy eating "right."	11.	T	F
12.	I don't really care much about what I eat (e.g. fried foods, sugar, etc.).	12.	T	F
13.	I enjoy spending time with people who are cautious and avoid unnecessary risks.	13.	T	F
14.	Sometimes I feel so frustrated that I would like to hit my fist against the wall (or something that could hurt me).	14.	T	F
15.	I feel good because my activities are meaningful and have purpose.	15.	T	F
16.	I wish I was someone else.	16.	T	F
17.	I expect to have along an interesting life.	17.	T	F
18.	Killing myself would solve many of my problems.	18.	T	F
19.	It is important to brush one's teeth after every meal.	19.	T	F
20.	The danger of smoking cigarettes has been exaggerated.	20.	T	F
21.	The chance of my being injured in an accident in the next year is very low (less than 10%).	21.	T	F
22.	Sometimes I think about injuring myself (i.e. smashing my fist into a window).	22.	T	F
23.	I believe I am a good person.	23.	T	F
24.	I think I am worthless.	24.	T	F

Right now we would like to ask you how are you feeling today. Please circle the answer the best describes how you are feeling RIGHT NOW.

1) Happy	Not at all	A little	Somewhat	A Lot	Very Much
2) Bored	Not at all	A little	Somewhat	A Lot	Very Much
3) Anxious	Not at all	A little	Somewhat	A Lot	Very Much
4) Angry	Not at all	A little	Somewhat	A Lot	Very Much
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9) Embarrassed	Not at all	A little	Somewhat	A Lot	Very Much
10) Excited	Not at all	A little	Somewhat	A Lot	Very Much
11) Distracted	Not at all	A little	Somewhat	A Lot	Very Much

Were you upset by any of the questions in the survey? Yes___ No___

If so, how much were you upset by the questions in this survey?

A. Not at all   B. A Little   C. Somewhat   D. A Lot   E. Very Much

Which specific items bothered you?

What suggestions do you have for future researchers to help students be comfortable participating in research studies?

Some of these questions can be very personal and sometimes people can feel bad or upset by being asked such personal questions. This is your chance to speak with a mental health professional if you are feeling really upset or sad. If you would like to speak to a mental health professional please print you name in the following blank. If you do not want to speak to a mental health professional please do not print your name in the blank. This sheet will not be apart of your responses it will be torn out by the researcher once you hand in your survey.

PRINT YOUR NAME HERE IF YOU WANT TO SPEAK WITH A MENTAL

HEALTH PROFESSIONAL:_____

APPENDIX H

COMMUNITY RESOURCES

WHEN YOU ARE BEING REFERRED FOR COUNSELING

If you have insurance, look on the back of the insurance card for a Customer Service phone number. Call your insurance carrier and ask about your mental health benefits. You will want to ask about your benefits, the cost to you, and how to choose a mental health service provider.

You will want to get answers to these specific questions:

- ❖ **BENEFITS - What are my outpatient mental health benefits?**
- ❖ **COST - How much will it cost to me to receive mental health services?**
- ❖ **SERVICE PROVIDERS - Who can provide mental health services under this plan?**

Most insurance plans require that mental health services be provided by a licensed mental health professional. In Oklahoma, there are several different kinds of licensed mental health professionals. They are:

LMFT	Licensed Marital & Family Therapist
LPC	Licensed Professional Counselor
LSW/LCSW	Licensed Social Worker with Clinical Specialty
LMHP	Licensed Mental Health Professional (new specialty-verify on network)

IF YOU DO NOT HAVE INSURANCE:

If you are seeking mental health services and do not have health insurance or if you have a policy which does not include mental health care, then you will probably want to seek mental health services from one of the community agencies that provide services with fees charged on a <u>sliding scale</u> based on one's income. <u>Attached is a list of area agencies.</u>

If you have any questions or need further help

please contact the Mental Health Association in Tulsa

at 585-1213

or

The Tulsa HelpLine

at 211 or www.211Tulsa.com

MENTAL HEALTH SERVICES (CHILD/ADOL)
Associated Centers for Therapy
    7010 S. Yale, Suite 215
    Contact: Teresa Mashburn   492-2554
Broken Arrow Family Resource Center
    802 N. Sycamore, Broken Arrow
    Contact: Phil Lowe   258-6545
Britney Parks   747-1600   5512 S Lewis Ave.
    (Neuropsychological and psychological testing)
Center for Counseling   and Education   747-6800
CREOKS
    6126 East 32nd Place
    Contact: Jennifer Givens   592-1622
DaySpring Services of Oklahoma   712-0859
    2761 E. Skelly Drive, Suite 700
    Contact: Alica Longnecker   388-6449
Family & Children's Service   587-9471
    650 S. Peoria
    4 intake staff/return call within 2 hrs.
    Multiple office locations but ALL initial appointments
    are scheduled at this number.)
Parent/Child Center
    1421 S. Boston (has services for family also)
    Contact: Marcia Crutcher   599-7999
Positive Behavioral Strategies
    1629 S. Peoria
    Contact: Pat Baxter   585-9888
Youth Services of Tulsa   582-0061
    311 S. Madison
    Contact: David Grewe   382-4491   Owasso office, Kim
    272-5146

SUBSTANCE ABUSE SERVICES (YOUTH)
Palmer Drug Abuse Program   832-7763   711 S. Sheridan
    Contact: Tania Stewart

RESTRICTED SERVICES (INDIAN YOUTH)
Indian Health Care Resource Center   588-1900   550 S. Peoria
    Contact: Dr. Janet Willis, Norman Summers, LCSW   {**Must** have CDIB
(Indian Certification) card}

PSYCHOLOGICAL ASSESSMENTS
Family Medical Care Counseling Services
    7600 S. Lewis   493-7852
    Contact: Jenny Rettig

COUPLES, PARENTS, & FAMILIES

Domestic Violence Intervention Services   585-3163
    4300 S Harvard, Suite 100
YWCA Resource/Resonance Center   587-3888
    1608 South Elwood Avenue
OU Psychiatric Clinic   660-3130
    4502 East 41st Street   522-3211
    Medication management-Adults only

HOSPITALS (Out Patient & Inpatient services)

Laureate Psychiatric Clinic   481-4000
    6655 S. Yale
    Rotating intake staff
Parkside Psychiatric Hospital and Clinic   588-8888
    1619 East 13th Street
    Contact: Darren Sanchez
Shadow Mountain Behavioral Health   492-8200
    6262 S. Sheridan Rd.
    Contact: Elizabeth James
St. John's Medical Center   748-9868
    4720 S. Harvard
    Contact: JoAnn Flournoy, RN
Tulsa Regional Medical Center   599-5880
    744 W 9th Street
    Ask for admissions

Local Resources

Tulsa HelpLine   211
Mental Health Association in Tulsa   585-1213
    Contact: Mark Davis   627-2224
Al-Anon/Alateen   747-0017
Call Rape Crisis Line   744-RAPE
        744-7273

State Resources

Teen Hotline   1-800-522-TEEN   (12:00 noon-12:00 midnight) (8336)
Reach-Out Hotline   24/7   1-800-522-9054
Safeline (domestic violence) 24/7   1-800-522-7233
Child Abuse Hotline   24/7   1--522800-3511
Sexually Transmitted Diseases Hotline   1-800-227-8922
Oklahoma AIDS Hotline   1-800-535-AIDS Spanish AIDS Hotline
    1-800-344-SIDA

National Resources

National Mental Health Association 1-800-969-NMHA
National Alliance for the Mentally Ill   1-800-950-6264
National Crisis Helpline   1-800-999-9999
American Foundation for Suicide Prevention 1-888-333-2377
American Association of Suicidology   1-202-237-2280
National Suicide Prevention Lifeline 1-800-273-TALK
    Spanish   1-888-628-9454

YOUTH SERVICES AGENCIES (METRO AREA):

The youth services agencies operate on contracts with the state. They focus on counseling services for teenagers and their families and also operate emergency youth shelters for teenagers who need to leave the family setting for a short period.

Claremore	Rogers County Youth Services (Rogers County)	24 HOURS + shelter **Contact:** Linda Wilton	(918) 341-7580
Pawhuska	Youth Services of Osage County (Osage County)	24 HOURS + shelter	(918) 287-2881
Sapulpa	Youth Services of Creek County (Creek County)	24 HOURS + shelter	(918) 227-2622
Tulsa	Youth Services of Tulsa (Tulsa / Wagoner Counties)	24 HOURS + shelter **Contact:** David Grewe	(918) 582-0061

COMMUNITY MENTAL HEALTH CENTERS (METRO AREA):

Community mental health centers operate on contracts with the state, and tend to serve primarily adults, but they also have evaluation, case management, and some medication and treatment services for teenagers in most counties.

Grand Lake Mental Health Center, Inc.	(M-F, 8:00am-5:00pm)	(918) 430-0335
Crisis (after hours)		*(800) 722-3611*
Claremore Office	(M-F, 8:00am-5:00pm)	(918) 342-0770
CREOKS Mental Health Services, Inc.	(M-F, 8:30am-5:00pm)	(918) 756-9411
Crisis (after hours)		*(800) 756-9246*
Tulsa Satellite Office	(M-F, 8:30am-5:00pm)	(918) 382-7300
Sapulpa Satellite Office	(M-F, 8:30am-5:00pm)	(918) 227-2016
Okemah Satellite Office	(M-F, 8:30am-5:00pm)	(918) 623-2922
Edwin Fair Community Mental Hlth. Ctr.	(M-F, 8:00am-5:00pm)	(580) 762-5761
Crisis (after hours)		*(800) 566-1343*
Pawhuska Satellite Office	(M-F, 8:00am-5:00pm)	(918) 287-1175
Bill Willis Community Mental Health Ctr.	(M-F, 8:00am-5:00pm)	(918) 456-8272
Wagoner Satellite Office:	(M-F, 8:00am-5:00pm)	(918) 485-4040
<u>COPES AND COPES for kids</u>	24 hours a day	(918) 744-4800

RESOURCE CENTERS:

OSU-COM Tulsa Area Prevention Resource Center (Public Clearinghouse)
1560 E. 21st St., Suite, 210, Tulsa, OK 74114   (918) 749-8800

Youth Resource Library, Oklahoma Cooperative Extension Service Tulsa County
4116 E. 15th St., Tulsa, OK 74112   (918) 746-3706

University of Oklahoma National Resource Center for Youth Services
202 West 8th St, Tulsa, OK 74119   (918) 585-2986

APPENDIX I

IRB APPROVAL

Oklahoma State University Institutional Review Board

Date:	Tuesday, February 20, 2007
IRB Application No	ED06211
Proposal Title:	The Association Between Thought-Action Fusion and Suicide Proneness in a Sample of Community Adolescents
Reviewed and Processed as:	Full Board

Status Recommended by Reviewer(s): Approved   Protocol Expires: 12/12/2007

Principal
Investigators

Jeff Klibert
1200 N. Perkins Rd. Apt. R1C
Stillwater, OK 74075

Jan R. Bartlett
430 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C. Jacobs

Sue C. Jacobs, Chair
Institutional Review Board

VITA

Jeffrey J. Klibert

Candidate for the Degree of

Doctor of Philosophy or Other

Dissertation: THE ASSOCIATION OF THOUGHT-ACTION FUSION TO SUICIDAL
PRONENESS, GENDER, AND CHRONOLOGICAL AGE IN
AOLESCENTS.

Major Field: Educational Psychology

Biographical:

Personal Data: Born in New Orleans, Louisiana On January 26, 1980 son of
Wayne J. and Sheron C. Klibert.

Education: Graduated form Jesuit High School, New Orleans, Louisiana in
1998. Graduated from the University of Southern Mississippi in 2002
with a Bachelor of Arts in Psychology. Graduated from the University of
South Alabama in 2004 with a Masters of Science in Clinical
Psychology. Completed the requirements for the degree of Doctor of
Philosophy at Oklahoma State University in July, 2008.

Experience: Completed a 2000 hour Pre-doctoral Internship at the
University of Missouri at Kansas City's Counseling Center,
Kansas City, Missouri.

Professional Memberships: American Psychological Association, Association
of Behavioral and Cognitive Therapies, and American Association of
Suicidology.

Name: Jeffrey J. Klibert

Date of Degree: July, 2008

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE ASSOCIATION OF THOUGHT-ACTION FUSION TO
SUICIDAL PRONENESS, GENDER, AND CHRONOLOGICAL AGE
IN ADOLESCENTS.

Pages in Study: 197

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology

Scope and Method of Study: The general purpose of this study was to explore the role of
thought-action fusion within an American sample of community adolescents.
Specifically, I looked to determine the influence of contextual variables (i.e.
gender, age, and race) on thought-action fusion thinking in adolescents.
Additionally, I also looked to determine whether thought-action fusion was
associated with suicide prone behaviors, feelings, and thoughts. Participants were
260 urban high school adolescents. All participants who were under the legal of
age of eighteen were required to get their parents consent and to give their assent
before participating in the study. All participants who were emancipated or over
the age of eighteen were required to give their informed consent to participate in
the study. After permission was obtained to participate in the study, each
participant was given a survey packet which included a demographic sheet, the
TAFQ-A, and the LAS-SF to complete.

Findings and Conclusions: In summary, I found that there were no age or gender
differences in thought-action fusion thinking. However, I did find that African-
American adolescents are more likely to use a thought-action fusion style of
thinking compared to Caucasian adolescents. This finding is interesting
considering we know relatively little about specific cognitive influences on
African-American adolescent emotional distress. Future researchers may want to
consider how thought-action fusion beliefs impact the onset of emotional distress
(i.e. anxiety and depression) in African-American youth. Secondly, I also found
that only thought-action fusion likelihood beliefs had a significant positive
association with suicide prone behaviors, feelings, and thoughts. Additionally, I
found that the combination of thought-action fusion beliefs only predicted 4% of
the variance in suicide prone behaviors, feelings, and thoughts. However, in light
of these results, I do not believe that thought-action fusion thinking is a practically
significant predictor of suicide proneness in community adolescents. Although no
direct was establish between thought-action fusion thinking and suicide
proneness, future researchers should look at the indirect association between
thought-action fusion and suicide proneness through such mediating variables as
anxiety and depression.

ADVISER'S APPROVAL: Jan Bartlett, Ph.D.