The Ambiguous Loss of Alcohol Use Disorders for Affected Family Members: Can Al-Anon involvement and Psychological Flexibility Make a Difference?

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ABSTRACT

THE AMBIGUOUS LOSS OF ALCOHOL USE DISORDERS FOR AFFECTED FAMILY MEMBERS: CAN AL-ANON INVOLVEMENT AND PSYCHOLOGICAL FLEXIBILITY MAKE A DIFFERENCE?

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Northern Illinois University, 2023
Dr. Melissa Fickling, Director

Alcohol Use Disorders (AUD) destroy the health of many afflicted people as well as their affected family members (AFMs). The purpose of this quantitative dissertation was to explore relevant variables for AFMs based on ambiguous loss theory and relational frame theory. In this study, 310 AFMs completed online surveys through MTurk. Differences in AFMs’ Al-Anon involvement (i.e., no involvement, newcomer, member) were investigated relative to psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguous loss resilience (i.e., ambiguity tolerance). Results indicated Al-Anon involvement was not a significant variable in relation to AFMs’ distress or ambiguity tolerance outcomes. Psychological flexibility, psychological inflexibility, and boundary ambiguity explained 61.2% of the total variance in AFMs’ distress outcomes ($R^2 = .612, F(3, 304) = 162.114, p < .000$). Psychological flexibility, psychological inflexibility, and boundary ambiguity explained 24.1% of the total variance in AFMs’ ambiguity tolerance outcomes ($R^2 = .241, F(3, 303) = 33.467, p < .000$). Evidence indicated psychological inflexibility was the most important predictor variable relative to AFMs’ distress and ambiguity tolerance outcomes.
NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS

MAY 2023

THE AMBIGUOUS LOSS OF ALCOHOL USE DISORDERS FOR
AFFECTED FAMILY MEMBERS: CAN AL-ANON
INVOLVEMENT AND PSYCHOLOGICAL
FLEXIBILITY MAKE A DIFFERENCE?

BY
GISELLE HERNANDEZ NAVARRO

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
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DEPARTMENT OF COUNSELING AND HIGHER EDUCATION

Doctoral Director:
Dr. Melissa Fickling
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CHAPTER 1

INTRODUCTION

Alcohol contributes to 3 million annual deaths (National Center for Drug Abuse Statistics [NCDAS], 2021) and 132.6 million disabilities worldwide (World Health Organization [WHO], 2018). There are nearly 100,000 alcohol-related deaths in the United States (U.S.) each year due to the lethal effects of alcohol-causing chronic ailments (8.05%), heart failure (9.18%), brain diseases (5.37%), liver diseases (31.08%); alcohol intoxication resulting in driving fatalities (7.45%), homicides (7.86%), alcohol poisonings (14.85%), suicides (10.44%), and other acutely caused deaths (5.72%); as well as the progressive development of Alcohol Use Disorders (AUD) (NCDAS, 2021). AUD or alcohol addictions have a lifetime prevalence of 29.1% in the U.S. (American Psychiatric Association [APA], 2022). AUD is characterized by an inability to control alcohol use; the experience of alcohol cravings, tolerance, and withdrawal symptoms; and the continued excessive consumption of alcohol despite negative effects on work, relationships, health, and family functioning (APA, 2022). Internationally, 237 million men and 46 million women have AUD (WHO, 2018). In the U.S., an estimated 14.1 million adults have AUD (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2021; Substance Abuse and Mental Health Services Administration [SAMHSA], 2021). AUD is widespread and disrupts the
mental and emotional health of affected family members (Copello et al., 2010; Daley et al., 2018).

Alcohol, cannabis, caffeine, and hallucinogens are considered in their own separate category of addiction (e.g., Alcohol Use Disorder, Cannabis Use Disorder, etc.). Whereas Substance Use Disorders (SUD) or drug addictions are characterized by excessive, chronic use of inhalants, opioids, sedatives, stimulants, or tobacco with similar addiction criteria as AUD and differences only in intoxication and withdrawal effects depending on the drug (APA, 2022). Orford and colleagues (2013) estimated 100 million adult family members are affected by any addiction (i.e., SUD, AUD, etc.) throughout the world. Family members of those with SUDs are identified as “affected family members (AFMs). . .wives, mothers, husbands, fathers, children, and other close family members” (Orford et al., 2013, p. 71), although for this study, AFMs will refer to family members of people with AUD specifically, unless otherwise indicated.

Additionally, the prevalence of AFMs is likely low approximations based on addiction prevalence rates “that on average one adult is adversely affected by each case of addiction” (Orford et al., 2013, p. 71). Based on this estimation method, family members of people with AUDs could be nearly 283 million people worldwide (WHO, 2018) and 14.1 million people in the U.S. currently (NIAAA, 2021). Further, the high prevalence of AUD harms and disrupts the lives of many children and adolescents across the U.S. According to National Survey on Drug Use and Health data from 2009 to 2014, 7.5 million children lived with a parent with AUD in the U.S. (Lipari & Van Horn, 2017). The most common adverse childhood experience involved family members with AUD in the home (i.e., 25.6% prevalence); such experiences are linked to an increased likelihood of adult mental and physical illnesses and shortened life expectancies.
(Felitti et al., 1998). Thus, AUD has far-reaching intergenerational effects that can harm family members.

AFMs can experience high levels of relational trauma and distress (Young & Timko, 2015). For example, children with parents with AUD are exposed to higher incidences of child abuse, neglect, and subsequent mental health problems (Gruber & Taylor, 2006; Lipari & Van Horn, 2017). In addition, McCrady and Flanagan (2021) identified multiple studies linking increased rates of intimate partner violence (IPV) with AUD in couples, as well as IPV occurring during heavy drinking episodes. AFMs can experience difficulties establishing healthy boundaries with others due to the maintenance of dysfunctional family rules, such as “don’t talk, don’t trust, don’t feel” to maintain the family unit (Black, 1999, p. 3). Consequently, AFMs experience long-lasting, elevated distress due to AUD. During 800 qualitative interviews, AFMs identified the results of chronic, addiction-related stressors: strained sleep and fatigue; increased or variable substance use, over or undereating; weight gain or loss, diminished mental health (e.g., difficulty concentrating, depression, anxiety, and suicidal thoughts), and increased physical illnesses and reduced overall health (e.g., headaches, back pain, hair loss, heart tremors, etc.) (Orford, Velleman, et al., 2010).

Not only can AFMs experience declining physical and mental health due to their family members’ struggle with AUD, their financial security can also be negatively affected. Addiction is often associated with unemployment and thus loss of income for individuals with AUD and subsequently their family members (Compton et al., 2014; Ray et al., 2009). AFMs acknowledged their financial burdens: “loss of considerable assets as well as already poor families made poorer by the relative’s diversion of funds and failure to contribute to the family
economically. Other family members had to support the family economically to an extent that they had not expected or wished for” (Orford, Velleman, et al., 2010, p. 48). It is estimated each individual AFM can spend up to $25,000 dollars per year in additional healthcare expenses (Orford et al., 2013), which is currently close to $32,000 dollars per year based on inflation rates from 2013 to 2022.

**Addiction Stigma, Distress, and Isolation**

Addiction stigma is extensive and harms the mental health of people struggling with addictions (Krafft et al., 2018). As AFMs cope with chronic addiction-related stressors, they experience societal addiction stigma alongside their family members with AUD (Corrigan et al., 2006). Specifically, addiction stigma is defined as negative stereotypes and evaluations that suggest people with addictions are inferior to others, which leads to social rejection and discrimination (White, 2009). Further, in a sample of over 3,000 individuals, Van Boekel and colleagues (2015) assessed and compared stigmatizing attitudes and beliefs toward people with SUD. The public endorsed the following negative stereotypes and inaccurate attribution beliefs: people with SUD are not intelligent or trustworthy and are inclined to be violent and criminal; people with SUD are responsible for their addictions; addiction is not an illness; addiction is due to weakness (Van Boekel et al., 2015). Structural addiction stigma are policies toward people with SUD and AUD that block access to employment and housing (Earnshaw, 2020), which can financially hurt AFMs as well (Orford, Velleman, et al., 2010). Ultimately, people with multiple
marginalized social identities (i.e., underrepresented races, genders, sexual orientations, low SES) and addiction have a higher risk of stigmatization compared to others (Remedios & Snyder, 2018), which can compound oppressive experiences for people with AUD and their family members.

Corrigan and associates (2006) found people were more likely to exclude and find fault with families affected by addiction than those affected by other mental health conditions. AFM advocates asserted, “Family members have been castigated more as causative agents and sources of recovery sabotage than as recovery resources or individuals deserving services in their own right” (White & Savage, 2005, p. 3). The societal message of blaming families affected by addiction is just one of the many harmful messages that could affect AFMs. AFMs can internalize (i.e., come to believe) addiction stigma messages, which contributes to increased shame, isolation, silence, and subsequent mental health distress (D’Aniello et al., 2021; Orford, Velleman, et al., 2010). Just as people with AUD with high levels of internalized addiction stigma are less likely to seek treatment and recover from addictions (Earnshaw, 2020), AFMs who internalize addiction stigma are less likely to seek support from others (McDonagh et al., 2019). Yet strong support systems can protect AFMs coping with addiction-related stressors (Orford, Copello, et al., 2010). The Al-Anon Family Group (Al-Anon) has been one source of mutual support for AFMs since its establishment in 1951.
Al-Anon Family Mutual Support Group

Considering the harm of AUD and addiction stigma on families, it is understandable that AFMs seek community support and fellowship. One popular organization that family members frequently seek out is Al-Anon. Al-Anon is a worldwide mutual support group for AFMs based on the twelve-step program of Alcoholics Anonymous. Al-Anon forums are informed by principles of acceptance, serenity, and spirituality, which involve balanced detachment from family members with AUD to focus on self-care (Al-Anon, 2005). In a qualitative focus group of 10 Al-Anon members, Corrigan (2016) found members linked their group involvement to improved acceptance, self-awareness, self-esteem, behavioral tools, and helpful perceptions related to AUD and relationships.

Timko, Laudet, and associates (2014) surveyed 251 Al-Anon newcomers after their first meeting and then 6 months later to identify factors related to group termination or continued attendance; 57% of Al-Anon newcomers dropped out of the group 6 months later. Key differences between dropouts and people with continued Al-Anon attendance included the following: dropouts endorsed more experiences of physical abuse, approach coping, low contact with drinker, as well as satisfaction with finances, current state of life, and wellness (Timko, Laudet, et al., 2014). AFMs who dropped out of Al-Anon indicated more contentment with their life and less contact with the addicted family member, yet dropouts indicated more experiences of physical abuse. Additionally, researchers have identified AFMs’ perceptions toward AUD can influence their Al-Anon involvement (Timko, Laudet, et al., 2014). That is, Al-Anon termination has been related to “not believing in the disease model of addiction . . . conflicts with the
concepts of surrender, powerlessness, and spirituality” (Timko, Laudet, et al., 2014, p. 1044). Thus, AFMs’ perceptions and current mental health status are integral factors to explore in relation to Al-Anon involvement or non-involvement. It is crucial to investigate how AFMs’ Al-Anon involvement relates to distress versus resilience. Such focus could influence the counseling profession’s understanding of potential predictors of AFMs’ Al-Anon involvement versus non-involvement.

**Statement of the Problem**

There are two specific theories applicable to AFMs’ resilience versus distress that have minimal exploration in previous research: ambiguous loss theory (Boss, 2006) and relational frame theory (Hayes, 2004). The lack of AFM ambiguous loss and relational frame research can negatively affect clinical conceptualizations and effective interventions for this population. First, the term “ambiguous loss” refers to an uncertain loss that has no end. That is, people can be physically present but psychologically absent (e.g., dementia, severe mental health disorders, and autism spectrum disorder) or psychologically present but physically absent (e.g., immigration, physical disappearances, abductions, and the COVID-19 pandemic) (Boss, 2006; Boss, 2022). Ambiguous loss situations create boundary ambiguity within families, which are confused perceptions of who is in or out of the family (Boss, 2006). Increased boundary ambiguity predicts depression and anxiety symptoms for caregivers of family members with dementia (Boss et al., 1990). Up until now, connecting ambiguous loss theory to AFMs’ experiences has
had minimal consideration in the research, despite Boss’s identification of addiction as an ambiguous loss event (Boss, 2006; Boss, 1990). To date, the following research connects ambiguous loss theory to AFMs’ experiences: a qualitative inquiry of family members’ experiences of ambiguous loss and addiction (Walker, 2017), an exploration of siblings’ ambiguous loss experiences with Opioid Use Disorder (OUD; Healer & Reader, 2021), and children’s ambiguous loss experiences of parents with OUD (Mechling et al., 2018).

The lack of AFM ambiguous loss research is problematic because ambiguous losses can lead to complicated grief reactions, depression, anxiety, distress, and traumatic stress symptoms (Betz & Thorngren, 2006; Boss et al., 1990; Boss & Yeats, 2014), thus effective interventions grounded in appropriate theory and research are needed to adequately support AFMs. Clinical conceptualizations of AFMs’ experiences within counselor education and supervision affect subsequent interventions. If counselors cannot identify AFM experiences as ambiguous loss situations (i.e., due to a lack of population-specific research), clinical interventions may not enhance family members’ resilience. To illustrate, Boss (2006) recommended the first beneficial intervention for family members undergoing ambiguous loss situations is to name it as such (i.e., identify the loss as ambiguous and externalize dysfunction as situational versus individualized). If AFMs’ distress and grief reactions are pathologized versus normalized, it can be harmful to family members’ resilience (Boss, 2006). If community and relational interventions are not encouraged, family members can struggle to revise their attachments or bolster much needed support (Boss, 2006). Furthermore, ambiguous loss resilience (i.e., conceptualized as ambiguity tolerance) grows in supportive relationships yet is harmed by isolation and experiences of stigma (Boss, 2006). Thus, AFMs are affected by addiction stigma, which can shut down avenues of
community support, such as Al-Anon groups. McDonagh and colleagues (2019) found in qualitative interviews of 11 AFMs that perceived addiction stigma contributed to family members’ experiences of shame, guilt, and isolation. Thus, the application of ambiguous loss theory to counseling practice offers useful interventions to enhance AFM ambiguous loss resilience (e.g., Al-Anon support group attendance) and reduce distress. It is valuable to understand whether there is a relationship among AFMs’ experiences of ambiguous loss in terms of boundary ambiguity, distress, and resilience.

The second theory, relational frame theory (RFT), means the ways human language and cognition function can contribute to human suffering (Hayes, 2004). RFT researchers developed the construct of psychological flexibility (i.e., mindfulness, experiential acceptance, and values-based actions), which is original to Acceptance and Commitment Therapy (ACT; Hayes, 2004). ACT is an effective, evidence-based clinical approach that addresses a variety of presenting concerns like depression, anxiety, and addiction to name a few (Hayes, 2022). ACT interventions enhance psychological flexibility, which is associated with improved well-being and mental health outcomes (Gloster et al., 2017; Kashdan, 2010; Lucas & Moore, 2020). Despite the well-established benefits of psychological flexibility, especially for stigmatized populations like people with addictions, AFMs have not been included in the research literature. Psychological flexibility is a measure of well-being linked to improved mental health outcomes and reduction of internalized addiction stigma for people with addictions (Luoma et al., 2013). Like people with addiction, AFMs can experience addiction stigma together with their family members (Corrigan et al., 2006; D’Aniello et al., 2021). Thus, if enhanced psychological flexibility is
related to improved mental health and decreased stigma for people with addictions; AFMs could possibly benefit from similar interventions.

Moreover, some AFMs encounter additional stressors like caregiver burden (D’Aniello et al., 2021; McCrady & Flanagan, 2021; Orford et al., 2013). Psychological flexibility research has been applied to other family experiences of ambiguous loss situations, especially involving caregivers. For example, Han and associates (2020) conducted a meta-analysis of family caregivers in various ambiguous loss situations (i.e., dementia, traumatic brain injury, developmental disabilities) and found ACT interventions enhanced family members’ psychological flexibility and physical health while decreasing stress reactions; AFMs were not included in this study. Other researchers found that psychological inflexibility (i.e., mindlessness, experiential avoidance, and lack of values-based actions) predicted decreased quality-of-life outcomes for 91 caregivers of family members with dementia (Contreras et al., 2021). The lack of AFM psychological flexibility research is problematic because ACT interventions grounded in relational frame theory could identify a clinical approach to support AFMs’ wellness and mental health, especially since it has been deemed helpful to other families experiencing ambiguous loss situations (Han et al., 2020).

Thus, given the increased demands on AFMs, the identification of factors that could be helpful to their mental health and ambiguous loss resilience is essential. Furthermore, there is a lack of research on how involvement in community support groups like Al-Anon may relate to family members’ psychological flexibility, distress, and resilience. This study’s variables of interest, research design, and analysis are informed by ambiguous loss and relational frame theory to enhance the counseling profession’s understanding of AFMs’ experiences.
Purpose of the Study

The aim of this study was to explore the relationships between influential variables for AFMs based on ambiguous loss and relational frame theory. These specific theories offer the counseling profession and AFMs, an over-looked and stigmatized population, contextual models of stress and resilience to destigmatize conceptualizations of families challenged by addiction (Orford, Copello, et al., 2010). Specifically, Boss’s (2006) ambiguous loss theory is an integration of contextual family stress theory (CFST), in which there are interrelationships between families’ experiences of harmful events, resources, perceptions, and subsequent degrees of distress. The CFST conceptualization of variables was applied in this study. One purpose of this study was to examine the differences among AFMs’ experiences of their ambiguous loss situation (i.e., the family member with alcohol use disorder), individual resources (i.e., psychological flexibility), at-risk perceptions (i.e., psychological inflexibility, boundary ambiguity), and subsequent distress outcomes versus ambiguous loss resilience outcomes (i.e., ambiguity tolerance) among non-involved, newcomers, and members of Al-Anon (i.e., community resource). The second purpose of this study was to explore the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes and whether these relationships differ based on Al-Anon involvement. The third purpose of this study was to explore the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes and whether these relationships differ based on Al-Anon involvement.
Research Questions

The research questions included the following:

1. Are there differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon?

2. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict distress outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?

3. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict ambiguity tolerance outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?
**Study Significance**

First, structural addiction stigma contributes to the ecological, financial, and interpersonal barriers that distress people with AUDs and their families (Orford et al., 2013). To illustrate, people ($N = 709$) believed employers ought to deny employment (64%) and housing (54%) to people with addictions and contested equal insurance benefits (43%) and increased government spending to support the treatment (49%), housing (76%), and employment (46%) of people with addictions (Barry et al., 2014). Such discrimination not only exacerbates addiction by blocking essential avenues to recovery (e.g., treatment, employment), it disadvantages their family members as well. Second, addiction stigma could be a factor related to the lack of research to identify effective interventions for AFMs. That is, there are disparities in the literature for AFMs compared to people with addictions and other families in ambiguous loss situations. This study aimed to remedy the lack of AFM inclusion in the ambiguous loss and psychological flexibility literature. Third, highly stigmatized populations, such as people with addictions, benefit from community support groups to decrease shame and stigma (White & Savage, 2005) and contextual counseling approaches that enhance psychological flexibility (Luoma et al., 2008). AFMs are stigmatized as well (Corrigan et al., 2006; D’Aniello et al., 2021) and could likely benefit from similar community support groups, such as Al-Anon, and contextual counseling approaches, yet they are minimally addressed in the literature.

In summary, AFMs’ experiences of ambiguous loss and psychological flexibility are underaddressed in the literature. The lack of research connecting ambiguous loss theory to AFM experiences could negatively affect counseling conceptualizations and subsequent interventions.
Last, there is minimal research on how Al-Anon involvement relates to AFMs’ boundary ambiguity, psychological flexibility, psychological inflexibility, and distress versus resilience outcomes. Through the lens of ambiguous loss and relational frame theory, this study was an exploration of relationships between Al-Anon involvement on measures of psychological flexibility, psychological inflexibility, distress, and ambiguity tolerance for AFMs, which will address a gap in the previous literature and has yet to be done. Therefore, this research study served as AFM advocacy to promote their inclusion in the literature.

**Definition of Terms**

Al-Anon involvement: Participation in an Al-Anon mutual support group categorized in the following way: never attended an Al-Anon meeting (no involvement); attended six or fewer Al-Anon meetings (newcomer); attended more than six Al-Anon meetings (member; Timko, Cronkite, et al., 2014).

Alcohol Use Disorder (AUD)/alcohol addiction: Inability to control excessive alcohol use; experience of alcohol cravings, tolerance, and withdrawal symptoms; and continuing to drink alcohol despite negative consequences in work, relationships, and family functioning (APA, 2022).

Affected family members (AFM): Family members of those with Alcohol Use Disorders are operationalized as “wives, mothers, husbands, fathers, children and other close family members” (Orford et al., 2013, p. 71).

Ambiguous loss resilience/ambiguity tolerance (AT): “An orientation, ranging from aversion to attraction, toward stimuli that are complex, unfamiliar, and insoluble” (McLain, 2009, p. 975). Ambiguity tolerance is conceptualized as resilience in ambiguous loss theory (Boss, 2006).

Boundary ambiguity: Lack of clarity related to who is included or not included in the family system (Boss, 2006).

Relational frame theory (RFT): “The process by which overt environmental, cognitive, physiological, and emotional stimuli become related to one another—and thereby take on each other’s qualities and functions—in every imaginable way” (Bricker & Tollison, 2011, p. 546).

Substance Use Disorder (SUD)/drug addiction: Inability to control excessive drug use (i.e., inhalants, opioids, sedatives, stimulants, or tobacco); experience of drug cravings, tolerance, and withdrawal symptoms; and continuing to use drugs despite negative consequences in work, relationships, and family functioning (APA, 2022).

Psychological flexibility: A way of being that encompasses high levels of mindfulness, experiential acceptance of thoughts and feelings, and engagement in values-based behavior, which is related to improved mental health outcomes (Hayes et al., 2012).

Psychological inflexibility: A way of being that encompasses high levels of experiential avoidance, detachment from the present moment, and lack of engagement in values-based actions, which is related to negative mental health outcomes (Hayes et al., 2012).
Brief Overview

This study is arranged into three chapters. Chapter 1 includes an introduction to the study, purpose of the study, statement of the problem, research questions, significance of the study, and definition of terms. The literature review is presented in Chapter 2, which includes the following: (a) an introduction; (b) conceptual framework; (c) implications of the study to counselor education and supervision; (d) literature review of AFMs and Al-Anon; (e) theoretical framework of ambiguous loss theory, ambiguous loss, and Al-Anon involvement; (f) theoretical framework of relational frame theory, psychological flexibility, and Al-Anon involvement; (g) ambiguous loss and resilience, psychological flexibility and resilience, and integration of ambiguous loss, psychological flexibility, and resilience; (h) ambiguous loss and distress, psychological flexibility and distress, and integration of ambiguous loss, psychological flexibility, and distress; and (i) summary. The research methods are presented in Chapter 3, which includes the study design, participants, instruments, materials, procedure, restated research questions, hypotheses, analyses, and limitations. The research results are included in Chapter 4, which includes descriptive statistics, statistical assumption checks, between-subjects test results, multiple linear regression, and moderation results. The discussion section is described in Chapter 5, which includes the findings, ambiguous conclusions, implications, and limitations.
CHAPTER 2

LITERATURE REVIEW

In Chapter 1, the following topics were addressed: the negative effect of Alcohol Use Disorders (AUD) on affected family members (AFMs), the need for more research to elucidate factors that contribute to ambiguous loss resilience (i.e., ambiguity tolerance) versus distress for AFMs, and the purpose and significance of this study. To review, the purpose of this study included the following: (a) to determine whether there are differences among AFMs’ Al-Anon involvement (no involvement, newcomer, member) on measures of psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance; (b) to explore whether psychological flexibility, psychological inflexibility, and boundary ambiguity can predict distress outcomes, and whether the relationships among previous variables and distress outcomes differ based on Al-Anon involvement; (c) to explore whether psychological flexibility, psychological inflexibility, and boundary ambiguity can predict ambiguity tolerance outcomes and whether the relationships among previous variables and ambiguity tolerance outcomes differ based on Al-Anon involvement.

Chapter 2 presents include this study’s literature review on the following: conceptual framework, implications to the profession of counselor education and supervision, literature
related to AFM population and Al-Anon, theoretical framework of ambiguous loss theory and ambiguous loss and Al-Anon involvement, and theoretical framework of relational frame theory and psychological flexibility and Al-Anon involvement. Next, the literature will be presented on ambiguous loss and resilience, psychological flexibility and resilience, and integration of ambiguous loss, psychological flexibility, and resilience. After this, literature will be presented on ambiguous loss and distress, psychological flexibility and distress, and integration of ambiguous loss, psychological flexibility, and distress. Last, a summary will be presented on the aforementioned literature and study implications to understand AFMs’ experiences within the framework of ambiguous loss and relational frame theory.

Conceptual Framework

Ambiguous loss resilience versus distress for AFMs is explored through a postpositivist and transformative worldview. First, Abutabenjeh and Jaradat, (2018) stated the postpositivist worldview emphasizes scientific and quantitative methods to uncover relationships between variables. This postpositivist worldview includes logical ways of knowing by way of scientific methods, empirical observation, and theory verification. Furthermore, past researchers used quantitative survey designs to explore the relationship between variables of resilience and distress for AFMs (Copello et al., 2010; Orford et al., 2005) and Al-Anon participants (Stenton et al., 2014; Timko et al., 2013; Timko et al., 2015). Bond and Greenberg (1984) identified that boundary ambiguity ought to be explored with established quantitative measures. Much of the
ambiguous loss research has been conducted qualitatively (Carroll et al., 2007); therefore, this quantitative investigation of boundary ambiguity can add to the previous literature.

This study’s variables and population of interest are informed by a transformative worldview “to address the political, social and economic issues, which lead to social oppression, conflict, struggle, and power structures” (Kivunja & Kuyini, 2017, p. 35). First, throughout this study, ideological, structural, historical, and interpersonal forms of addiction stigma are elucidated to better understand how it harms people with addictions and their families. The intentional focus on addiction stigma and its relevancy to AFMs and study variables bolsters transformative viewpoints to challenge oppressive beliefs and systems. Next, AFMs and Al-Anon members are given minimal consideration within ambiguous loss and relational frame research, which can contribute to inequities within counseling education and supervision. To address AFMs within the research would advance social justice initiatives within the counseling profession (ACA, 2014). Specifically, this study addressed the social justice competency: “Employ quantitative and qualitative research to highlight inequities present in current counseling literature and practices in order to advocate for systemic changes to the profession” (Ratts et al., 2015, p. 12). That is, researchers often leave Al-Anon participants out of studies due to an emphasis on their privacy (Timko, Laudet, et al., 2014). Of all the Al-Anon traditions, anonymity is foundational to “place principles above personalities” (Al-Anon Family Group Headquarters Inc., 2005, p. 135). Al-Anon members can be a difficult population to reach, so an intentional focus on this population could enhance a professional understanding of their experiences. Last, this study could aid counselors’ multiculturally responsive conceptualization of AFMs and Al-Anon members. An emphasis on contextual (versus pathologizing)
conceptualizations of AFMs can advance social justice efforts within the counselor education and supervision field.

Counselor Education and Supervision

Within the context of counselor education and supervision, this study demonstrated the professional value of social justice (ACA, 2014). That is, the focus of this study, AFMs, is an overlooked population in ambiguous loss and relational frame research. In 2006, Boss clearly identified family experiences of addiction as an ambiguous loss situation consistent with her theory (i.e., family members with addiction can be physically present but psychologically absent), yet researchers have not focused on AFMs in ambiguous loss research (Carroll et al., 2007). Since ambiguous loss situations have been shown to contribute to complicated grief and traumatic stress symptoms (Betz & Thorngren, 2006; Boss & Yeats, 2014), as well as depression and anxiety (Boss et al., 1990), it is important to understand if there is a relationship among AFMs’ experiences of ambiguous loss in terms of boundary ambiguity and distress. There are multiple factors to be considered when counseling people experiencing ambiguous loss. For example, an ambiguous loss is identified as an interpersonal disorder without the possibility of closure, which can challenge the predominant clinical conceptualizations of grief work being connected to the acceptance of loss and eventual closure (Boss, 2006). Moreover, since people with AUD benefit from enhanced psychological flexibility (Luoma et al., 2013), it stands to reason that AFMs may also benefit from enhanced psychological flexibility as well. This study was an exploration of AFMs’ psychological flexibility, psychological inflexibility, boundary
ambiguity, and distress versus resilience outcomes, which could affect subsequent counseling interventions, recommendations, and decisionmaking for this population.

A lack of such clinical knowledge due to AFMs not being addressed in the research could be harmful to counselors’ conceptualizations of addiction as an ambiguous loss situation. Additionally, some counseling conceptualizations could be pathologizing and harmful to AFMs. Orford, Copello, and colleagues (2010) emphasized, “Professional thinking about AFMs has been dominated by models which, in contrast to stress-coping models, view family members in a more or less pathological light” (p. 37). For instance, Young and Timko (2015) identified codependency (i.e., “a pattern of unhealthy self-sacrifice, need for external validation, and reactivity in thought and behavior toward a substance-dependent individual”) as a potentially stigmatizing label that could affect AFMs (p. 63). That is, the codependency paradigm can simplify, individualize, and pathologize the complex and structural family problems of addiction (e.g., attributing the dysfunction to AFMs versus the chronic strain of their family situations; Orford et al., 2005).

In this next section, evidence related to the counseling profession’s need to better understand AFMs’ experiences of resilience versus distress will be presented. First, empirical research on AFMs’ experiences of addiction stigma and Al-Anon involvement will be highlighted. Second, research related to AFMs’ high risk of traumatic experiences and Al-Anon involvement will be emphasized. Third, a literature review on variables of Al-Anon involvement through the lens of ambiguous loss theory and relational frame theory will be presented.
AFMs, Stigma, and Al-Anon

Addiction to substances, especially alcohol, can harm not only people with AUD but also their family and friends (Orford et al., 2013). Black (1999) noted that addiction is often considered a family disease because it disrupts the family system; all members find ways to cope with the addiction, often at the expense of themselves. The dynamics of addiction in the family system can contribute to rigidity in standards, unrealistic expectations for children, abuse, abandonment, trauma, loss, and emotional isolation (Black, 1999; Orford et al., 2013). In a review of over 800 interviews, AFMs acknowledged their shared painful experiences: arguments (i.e., especially related to finances), which could become aggressive; uncertainty; chronic concern and worry; diminished family life; and loss of rituals (Orford, Velleman, et al., 2010). In some cases, AFMs may have a difficult time exploring their thoughts and feelings freely when they exist in a family system with rules that discourage or invalidate such disclosures (Black, 1999), usually due to feared consequences of legal involvement and child displacement (Mechling et al., 2018). Specifically, parental substance use in the United States is related to 60% of children’s displacement into foster care systems (Mechling et al., 2018).

Addiction stigma contributes to AFMs’ distress and the need for mutual support groups. There has been a public and professional debate between the moral versus medical model to conceptualize addictions. According to the moral model, the cause of addiction is rooted in people’s moral failings and lack of willpower (White, 2000). The moral model contributes to addiction stigma due to the emphasis on “high perceived fault and high perceived control” within the disorder (SAMHSA, 2017, p. 2). For instance, the public and medical doctors agreed
significantly more than addiction counselors that the cause of addiction is due to weakness \( (p < .001) \) (Van Boekel et al., 2015). Similarly, AFMs are also blamed and shamed for addiction within their families (Corrigan et al., 2006; White & Savage, 2005), which can then contribute to their isolation (D’Aniello et al., 2021; McDonagh et al., 2019). Widespread addiction stigma contributes to discrimination toward people with addictions (and their families) that can negatively affect access to housing, education, employment, and the healthcare needed to recover (National Academies of Sciences, Engineering, and Medicine [NASEM], 2016).

The marginalization of people with AUD has occurred throughout American history. In the U.S., the medical model began to spread between 1790 and 1830 due to rising alcohol use and Dr. Benjamin Rush’s publications on alcoholism as a disease (White, 2000). In 1830, Dr. Samuel Woodward established “asylums” for people with AUD (White, 2000, p. 48) and later in 1864 treated people with addictions to other substances (White, 2001). Specific legislation and events disadvantaged people with addictions historically: (a) state laws called for mandatory sterilization of people with mental illness and addiction between 1907 to 1913; (b) Dr. Leslie Keeley opened 120 corporate addiction treatment centers while non-profit asylums closed in 1891 (i.e., only people who could afford expensive treatment centers received services); (c) the Supreme Court ruled doctors were prohibited from treating people with AUD in Webb v. United States in 1919; and (d) private and public “asylums” closed between 1910 and 1925 (White, 2001). Thus, historically people with AUD (and consequently their families) were offered few supportive services and dwindling treatment options, especially disadvantaging poorer populations.
Due to this lack of advocacy, supportive legislation and programs for people with addictions developed. The legislation included the Community Mental Health Act, which improved public support for addiction recovery in 1963; the Americans with Disabilities Act (ADA) prohibited discrimination toward people with disabilities, mental illness, and addictions in 1990; and the Mental Health Parity and Addiction Equity Act increased insurance rate equity between the general public and people with addictions in 2008 (NASEM, 2016). Additionally, out of the structural barriers harming people with AUD specifically emerged community programs such as Alcoholics Anonymous. Dr. Bob and Bill W. founded Alcoholics Anonymous in 1935, which is an influential and widespread mutual support group throughout the U.S. and worldwide (White, 2000). Yet AFMs remained largely unaddressed in terms of supportive programs until Anne S. and Lois Wilson initiated the Al-Anon Family Group (Al-Anon).

Al-Anon is a mutual support group to assist families and friends of people with AUD. Al-Anon was formed in 1951 by Anne S. and Lois Wilson, the spouses of Alcoholics Anonymous (AA) founders Dr. Bob S. and Bill Wilson (Al-Anon Family Group Headquarters Inc., 2005). Anne B., another concerned spouse, assisted in organizing Al-Anon initiatives and the world directory (White & Budnick, 2011). Al-Anon is based on the twelve steps from AA and the twelve traditions. The Al-Anon twelve traditions guide group practices and include: (1) members will focus on their own well-being and group harmony; (2) God is the one authority and leaders serve; (3) members should not have agendas than having loved ones with AUD; (4) groups are independent; (5) the group’s purpose is to support families of people with AUD; (6) groups are connected to AA and should not give the organization name to any other entity for financial gain; (7) no external donations; (8) group service is volunteer based only; (9) groups should not be
organized; (10) groups should not post opinions on other topics; (11) groups should not initiate promotions; and (12) protect the anonymity of all members (Al-Anon Family Group Headquarters Inc., 2005).

The twelve steps aid members of Al-Anon to accept their emotional pain, focus on self-care, and detach from family members when their addictions are active. The twelve steps offer a roadmap for Al-Anon members to develop spiritually.

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to others and to practice these principles in all our affairs. (Al-Anon Family Group Headquarters Inc., 2005, p. 3)

Currently, there are inclusive adaptations of the AA and Al-Anon traditions and twelve steps to accommodate various religions (Travers, 2021), agnostic beliefs (AA Agnostica, 2022), and secular groups (The Secular Recovery Group, 2022). Oftentimes the twelve steps will connect Al-Anon members with the program followed by their family members in AA. Al-Anon members work on letting go of attempts to control or save addicted family members at the
expense of themselves through the application of twelve steps anchored in surrender. Young and Timko (2015) highlighted that 81% of Al-Anon members remained in relationships with their addicted family members, and 41% of members indicated their family members actively drank alcohol, which contributed to their decline in mental health. Since AFMs are negatively affected by AUD, Al-Anon can become one type of lifeline to sustain family wellness and buffer against chronic distress. Benefits of Al-Anon membership include an ability to influence family members with AUD, to learn the disease model of addiction, and to bolster supportive relationships (Young & Timko, 2015). Similarly, Timko and colleagues (2016) found that compared to members who terminated Al-Anon participation, members who sustained their participation reported improved management of problems caused by family members with AUD, increased quality of life, and a decrease in abusive behaviors within their relationships. It is noteworthy that AFMs’ Al-Anon involvement is related to a decrease in their experiences of relational abuse, since AFMs are at high risk for traumatic experiences (Orford et al., 2013).

**AFMs, Traumatic Experiences, and Al-Anon**

Zarse and colleagues (2019) found multiple studies corroborating the relationship among increased traumatic experiences (e.g., abuse, neglect, and dysfunction) and increased risk for SUD, posttraumatic stress disorder, clinical depression, psychosis, pain, insomnia, heart disease, lung disease, cancer, and early death. Specifically, researchers found in a sample of over 9,000 people, 20% of participants who endorsed parental alcohol problems were at significantly higher risk of experiencing abuse, neglect, family dysfunction, and depression (Anda et al., 2002).
Similarly, Al-Anon participants reported traumatic experiences as common (Al-Anon Family Group Headquarters Inc., 2015). Al-Anon participants endorsed experiencing the following: emotional abuse (95%), verbal abuse (94%), physical abuse (43%), and sexual abuse (21%). Furthermore, 32% of Al-Anon survey participants reported a personal diagnosed mental health disorder: depression (80%), anxiety (42%), posttraumatic stress disorder (21%), sleep disorder (13%), eating disorder (9%), and other mood disorder (8%). Despite many adverse experiences, Al-Anon survey participants rated their mental, physical, and emotional health as improved after Al-Anon involvement (Al-Anon Family Group Headquarters Inc., 2015). It is essential to explore factors that could be related to AFMs’ experiences of distress versus resilience. For instance, researchers found adult children AFMs in twelve-step support groups ($N = 79$) reported higher distress, more negative attitudes toward addicted family members, and less access to social support compared to AFMs in no support group ($N = 67$; Kashubeck & Christensen, 1992). Given that AFMs are at high risk to experience abuse and neglect (Anda et al., 2002; Orford et al., 2013), as well as the stigma that can worsen AFM distress (Corrigan et al., 2006; D’Aniello et al., 2021), this study was an investigation of protective and risk factors to illustrate the complex and unique needs of AFMs that are underaddressed in the literature.

**Theoretical Framework**

Two applicable, contextual theories relevant to AFMs that have had minimal exploration in previous research will guide this study: ambiguous loss theory (Boss, 2006) and relational frame theory (Hayes, 2004). Due to the gap in research integrating both ambiguous loss and
psychological flexibility for AFMs, this literature review will incorporate other family populations experiencing various types of ambiguous loss situations (e.g., COVID-19 pandemic, dementia, missing family members) to illustrate established connections between previous theories for others as well as the need for this study. The integration of ambiguous loss and psychological flexibility for other populations is foundational to the evidence and rationale for this study, as it provides evidence for exploring the integration of these theories for AFMs.

First, the following section will include a description of ambiguous loss theory and boundary ambiguity as well as ambiguous loss and Al-Anon involvement. Second, there will be a description of relational frame theory and psychological flexibility as well as psychological flexibility and Al-Anon involvement. Third, literature related to resilience will be presented: ambiguous loss and resilience; psychological flexibility and resilience; and integration of ambiguous loss, psychological flexibility, and resilience. Fourth, literature related to distress will be presented: ambiguous loss and distress, psychological flexibility and distress; and integration of ambiguous loss, psychological flexibility, and distress. Last, the literature review will conclude with a summary of evidence implications to AFMs and this study.

**Ambiguous Loss Theory and Boundary Ambiguity**

Dr. Pauline Boss’s theory defines ambiguous loss as “an unclear loss that defies closure” (Boss, 2006, p. 17). Specifically, physical ambiguous loss involves a family member who is physically gone and psychologically present (e.g., abductions and immigration). Psychological
ambiguous loss involves a family member who is physically present and psychologically gone (e.g., dementia and severe mental illnesses like addiction; Boss, 2006). Boss (1977) first discussed ambiguous loss theory to conceptualize father boundary ambiguity in people who had lost family members due to war. That is, the researcher investigated the degree to which lost fathers were perceived as absent or present by their family members. Boss (2006) integrated the contextual model of family stress (CMFS) as pivotal to her conceptualization of ambiguous loss theory and terms. That is, CMFS theorists differentiated between the family stressor event, perception of the stressor, coping resources, and the ultimate effect on family distress (Boss, 2006). Boss (2006, 2006) applied CMFS to differentiate between the ambiguous loss situation (e.g., missing person, dementia) and family perceptions in terms of boundary ambiguity (i.e., lack of cognitive clarity related to who is included or not included in the family system). Boss’s (2006) compilation of research largely focuses on how ambiguous loss creates boundary ambiguity for family members with dementia. Since the inception of ambiguous loss theory in the 1970s, other researchers have applied it to understand other family loss experiences, including divorce, adoption, and disabilities (Carroll et al., 2007). The following are ambiguous loss theory assumptions:

First, ambiguous loss theory assumes that a psychological family exists and that this perceived construction of one’s family may differ from the physical or legal family structure.

Second, ambiguous loss as an external situation is assumed to be neutral. How it is perceived, however, has valence—the higher the degree of boundary ambiguity, the more negative the outcomes.

Third, it is assumed that cultural beliefs and values influence a family’s tolerance for ambiguity and how it is perceived.

Fourth, we assume that with situations of ambiguous loss, truth is unattainable and thus relative.
Fifth, ambiguous loss is inherently a relational phenomenon and thus cannot be an individual condition.

Sixth, it is assumed that there is a natural resiliency in families. Given the ubiquity of ambiguous absence and presence, family resiliency requires tolerance for ambiguity and the ability to live well despite its persistence.

Seventh, it is assumed that a phenomenon can exist even if it cannot be measured. Even if ambiguous loss is not quantifiable, it exists phenomenologically. (Boss, 2007, p. 106-107)

**Ambiguous Loss and Al-Anon Involvement**

Relationships can be negatively affected by ambiguous loss, which involves uncertain losses that require attachment adjustments. AFMs experience chronic uncertainty: “relatives ‘coming and going’, being absent when they were expected at home and arriving home at uncertain times and in uncertain states” (Orford, Velleman, et al., 2010, p.47). Boss (2006) highlighted a community-based approach to counseling services as fundamental to support family members struggling with ambiguous losses. For AFMs, Al-Anon provides an international supportive forum that embodies essential community support. Since AMFs are negatively affected by AUD (Orford, Velleman, et al., 2010; Orford et al., 2013), Al-Anon mutual support groups can contribute to family resilience. Al-Anon members endorsed their membership offered them an accessible, effective, and anonymous support system (Young & Timko, 2015). Similarly, Timko and colleagues (2016) studied Al-Anon newcomers (i.e., attended less than six meetings) and found that compared to participants who terminated Al-Anon involvement by the 6-month follow-up, newcomers who became members reported improved management of family-related problems, increased quality of life, and decreased
abusive behaviors within relationships. The effectiveness of Al-Anon involvement for AFMs would link to ambiguous loss theory research in that community and family-based interventions are recommended to boost resilience. Specifically, Boss (2006) purported, “Healing ambiguous loss occurs within new relationships, in that the ambiguous loss is a relational disorder and not an individual pathology” (p. 18).

Similarly, in 20 qualitative interviews of Al-Anon members, Kuuluvainen and Isotalus (2015) found the support network fostered relationships that contributed to a sense of belonging, countered feelings of worthlessness, and provided an outlet for members to help themselves. Similarly, researchers found therapeutic factors of Al-Anon involvement are linked to restorative relationships within the community and healthy boundary setting (Kuuluvainen & Isotalus, 2014, 2015). In addition, Timko and colleagues (2015) found Al-Anon members’ perceptions of social dynamics, including the formation of bonds, progress toward goals, engagement in gratifying activities, and exposure to role models related to attendance and overall health. Past research on relationships as an essential therapeutic factor of Al-Anon would connect well with recommended community counseling interventions for ambiguous loss situations (Boss, 2006). Specifically, protective factors of adult children AFMs were assessed and positive relationships were found between self-esteem, internal locus of control, ability to connect with others, and subsequent resiliency (Zvirbulis Levine, 1999). Therefore, this study was an examination of the relationship among Al-Anon involvement and measures of ambiguous loss resilience (i.e., ambiguity tolerance) and distress, as well as other influential variables.

Furthermore, Boss (2006) identified factors that promote resilience for family members coping with ambiguous losses. For example, Boss claimed that “to differentiate between what
can and cannot be changed” can be therapeutic for ambiguous loss events (p. 3). Similarly, this acceptance-based perspective has been infused throughout Al-Anon principles (Al-Anon, 2005). Al-Anon supportive forums focus on a Higher Power and Al-Anon tools, especially the twelve steps and serenity prayer to transform relational attitudes and beliefs. Al-Anon mutual support group meetings typically begin with the serenity prayer: “God grant me the serenity to accept the things I cannot change. The courage to change the things I can. The wisdom to know the difference.” This prayer is the epitome of acceptance and detachment - to let go of what is not controllable and control what is realistic. Its message is to detach from attempts to control what one cannot control, which includes other people and their addictions. Thus, Al-Anon acceptance principles could foster AFM coping skills to endure ambiguous losses and boundary ambiguity. These Al-Anon concepts connect well to adjusting mastery (i.e., to improve a sense of control in life), which is related to improved resiliency according to ambiguous loss theory (Boss, 2006). Incidentally, some researchers have compared twelve-step mutual support groups with ACT conceptually, noting similarities of surrender, working to align behavior with values, and accepting paradoxes (Wilson et al., 2000).

**Relational Frame Theory and Psychological Flexibility**

Hayes and colleagues (2012) acknowledged the commonality of pain as engrained in language and cognitive processes, comparing language to fire an advantageous tool that can burn. The philosophical underpinnings of psychological flexibility are based on relational frame
theory (RFT), which is a functional contextual approach to understanding language processes (Hayes, 2004; Hayes et al., 2012; Villatte et al., 2016). Functional contextualism means all behavior, which includes verbal behavior, has a purpose or function; learning history and context of behavior are emphasized and the truth is based on what works given the context (Hayes et al., 2012; Villatte et al., 2016).

RFT is an adaption of Skinner’s research on operant verbal behavior determined by direct conditioning (Barnes-Holmes et al., 2017). RFT researchers studied the nature of verbal behavior not directly taught, otherwise known as “arbitrarily applicable relational responses (AARR)” (Barnes-Holmes et al., 2017, p. 5). RFT researchers described relational framing as the “process by which overt environmental, cognitive, physiological, and emotional stimuli become related to one another—and thereby take on each other’s qualities and functions—in every imaginable way” (Bricker & Tollison, 2011, p. 546). Symbolic language involves relational frames that contain three main properties that naturally emerge: mutual entailment (i.e., “relation learned in one direction also entails another in the opposite direction”), combinatorial entailment (i.e., “mutual relations combine”), and transformation of stimulus function (i.e., “functions of events in relational networks can be transformed in terms of underlying relations”; Hayes et al., 2012, p. 44-45). Thus, relationships not directly taught are learned anyway due to the nature of verbal behavior and the human mind.

Based on RFT research (Hayes, 2004), attempts to escape or control symbolic language tend to backfire due to the nature of relational frames. Efforts to control or suppress language produce more suffering and self-sabotaging behavior, and people will suffer due to the nature of language itself. Hayes and colleagues (2012) used RFT theory to develop Acceptance and
Commitment Therapy (ACT), a contextual behavioral approach to therapeutic interventions with the conceptualization of psychological inflexibility (i.e., to be closed off from internal experiences, detached from the present moment, and lack of values-based actions) at the core of human suffering. To mitigate the negative consequences of psychological inflexibility, ACT clinicians enhance psychological flexibility (i.e., willingness to have internal experiences, present focus, and values-based actions), which is related to increased emotional, social, and psychological well-being (A-tjak et al., 2015; Gloster et al., 2017; Stenhoff et al., 2020) as well as adaptability and pain tolerance (Kashdan, 2010). As people grow more psychologically flexible, their suffering tends to decline. Thus, as psychological flexibility grows, so does the ability to adapt effectively.

Additionally, ACT is an evidence-based approach within the clinical and counseling literature. To date, Hayes (2022) aggregated 939 randomized control trials (RCT) of ACT interventions addressing multiple presenting concerns (e.g., psychosis, depression, anxiety, addiction). To illustrate, Stenhoff and colleagues (2020) conducted a meta-analysis of 11 ACT RCTs on well-being outcomes; ACT intervention groups demonstrated significantly higher well-being scores than control groups. In Ruiz’s (2010) review of ACT literature, he found 20 studies with correlations between psychological inflexibility and depression and 14 studies with correlations between psychological inflexibility and anxiety. Therefore, Ruiz’s research provided more evidence that psychological inflexibility is a meaningful construct in the literature associated with multiple negative mental health outcomes. Given these points, psychological flexibility research in relation to AFMs’ Al-Anon involvement or non-involvement would contribute to the current literature.
Psychological Flexibility and Al-Anon Involvement

AFMs’ psychological flexibility has not been explored in relation to Al-Anon involvement in the literature. In a meta-analysis of family caregivers supporting people with chronic illnesses, ACT interventions improved the psychological flexibility of participants with moderate (eight RCT studies) to large effect sizes (nine within-subject studies; Han et al., 2020). Yet AFMs were not included in the previous research. Moreover, psychological inflexibility accounted for 28% to 48% of the variance in distress and depression outcomes for family caregivers of children with neurodevelopmental disabilities (Sairanen et al., 2018). Al-Anon members endorse high rates of physical, financial, relational, and mental health problems (Young & Timko, 2015). Given that, it is imperative to understand how Al-Anon involvement, psychological flexibility, and psychological inflexibility would relate to AFM distress versus resilience. Thus, psychological flexibility, like Al-Anon, could be an important buffer to decrease AFM distress.

Also, Young and Timko (2015) found Al-Anon members’ maintenance of their relationships with addicted family members served a variety of purposes: protection of self and social identities, promotion of values, security, safety, stability, and hope. Likewise, aspects of psychological flexibility include a transcendent sense of self and values-based actions (Hayes et al., 2012). Yet the relationship among psychological flexibility and Al-Anon involvement has yet to be published in clinical research. Additionally, psychological flexibility has been related to improved mental health outcomes for general populations (Gloster et al., 2017; Kashdan, 2010; Lucas & Moore, 2020). Similarly, Al-Anon mutual support group involvement is related to
enhanced quality of life and wellness for members (Timko et al., 2013; Young & Timko, 2015). There are no published studies linking psychological flexibility and Al-Anon involvement. Thus, this study explored whether there were relationships among psychological flexibility, psychological inflexibility, and Al-Anon involvement for AFMs, which would be a novel finding in the literature.

**Ambiguous Loss and Resilience**

Boss (2006) defined ambiguous loss resilience as “increasing one’s tolerance for ambiguity” (p. 272). Also, cultural beliefs with less patience for ambiguity may be more challenged by ambiguous loss situations. In a sample of 31 family caregivers of dementia, Kale-Cheever (2015) found as ambiguity tolerance increased, caregiver burden decreased, which qualitatively substantiates Boss’s claim. Boss (2006) identified six cornerstones to ambiguous loss resilience: “finding meaning, tempering mastery, reconstructing identity, normalizing ambivalence, revising attachment, and discovering hope” (p. 14). Specifically, Boss (2006) connected dialectical thinking (i.e., holding opposite ideas together) as the cognitive process connecting all six elements of resilience (i.e., ambiguity tolerance).

First, the discovery of meaning is linked to flexible, open thinking, which allows for the maintenance and revision of family traditions. Second, Boss (2006) asserted mastery means to control what is controllable, which is often our inner world, especially in ambiguous loss situations; this requires cognitive flexibility. Third, the recreation of identity is a consideration
“between who people were and whom they must now become to cope with the ambiguity” (Boss, 2006, p. 131). To recreate identity, Boss (2006) included helpful interventions for families affected by AUD: boundary clarity, acceptance of change and difference among family members, and clarity of family beliefs related to trust, the world, and intergenerational trauma. Fourth, ambivalence means the experience of contradicting, often opposite emotions, which is expected in ambiguous loss situations (Boss, 2006). The more family members can accept their experience of opposite emotions (e.g., love and anger, sadness and relief), the more resilient they will become when coping with ambiguous loss. Fifth, revised attachment means to have gratitude for the parts of the person still accessible while making space for the parts of the person that are not (Boss, 2006). Thus, to revise attachment, people need to conceptualize their family members dialectically (i.e., acknowledge both what is there and what is lost within family members) and work to build new relationships. Sixth, hope means to believe there will be an eventual end to the pain while finding new, realistic dreams to focus on (Boss, 2006). Ambiguous loss situations challenge families to continually rework their hopes within a practical framework. Most importantly, Boss discussed ambiguous loss situations that heal relationally through bolstering new connections within supportive communities (e.g., Al-Anon mutual support groups).
Psychological Flexibility and Resilience

According to Hayes and colleagues (2012), there are six core processes of psychological flexibility: acceptance, cognitive defusion, mindfulness, self-as-context, values, and committed action. First, acceptance means to be willing to have internal experiences. Second, defusion means to focus on useful thoughts and not let negative thoughts influence behavior. Third, mindfulness means to focus on the present moment while detaching from judgments. Fourth, self-as-context means to focus on a sense of self who observes experiences. Fifth, values identification means to recognize which important principles are meaningful to life roles. Sixth, committed action means to embody values by acting on those principles in daily life.

In Kashdan’s (2010) literature review of psychological flexibility research, he identified multiple studies connecting psychological flexibility with self-regulation, or the ability to adapt behavior effectively given the circumstances. Therefore, as psychological flexibility grows, people begin to live in more adaptable ways based on the context (Hayes et al., 2004). To illustrate, Kashdan (2010) cited a meta-analysis by Hayes and colleagues in 2006 that examined 32 empirical studies and found “psychological flexibility was on average correlated .42 with outcomes ranging from job performance and satisfaction over a 1-year interval, daily activity engagement in pain patients, and mental health” (p. 6). In addition, Kashdan (2010) discussed a study by Feldner and associates in 2006 which established the following: when people with higher psychological flexibility were exposed to physical pain due to cold temperatures, they demonstrated more pain stamina and tolerance versus people with lower psychological flexibility. Thus, higher levels of psychological flexibility can allow people to carry their
inevitable pain with acceptance. Moreover, psychological flexibility is correlated with mental health, wellness, and coping with stressors (Wersebe et al., 2018). In four separate survey studies with a combined sample of 744 participants from communities and clinical settings, psychological flexibility is associated with scores of emotional well-being ($r = .59, p < .001$), social well-being ($r = .40, p < .001$), and psychological well-being ($r = .60, p < .001$) and decreased depression ($r = -.54, p < .001$) and anxiety ($r = -.53, p < .001$; Gloster et al., 2017). Additionally, Stenhoff and associates (2020) found higher wellness scores in ACT groups compared to control groups in 10 of 11 randomized control trials. Also, psychological flexibility moderated the relationship between helplessness and depressive symptoms for 84 Portuguese participants (Trindade et al., 2020). Such strong empirical evidence in support of psychological flexibility associated with increased well-being and health provides a basis for exploring this construct in relation to AFMs’ experiences of chronic ambiguous loss; psychological flexibility could serve as an important protective factor for this population with ACT interventions recommended in the field.

**Ambiguous Loss, Psychological Flexibility, and Resilience**

To this writer’s knowledge, there are no published studies addressing psychological flexibility, ambiguous loss, and resilience of AFMs. For example, in Han and colleagues’ (2020) collection of 18 studies testing the efficacy of ACT interventions on various types of family caregivers in ambiguous loss situations (e.g., multiple sclerosis, dementia, autism spectrum
disorder), AFMs were not included. The researchers found eight randomized control trials demonstrated moderate effects and nine within-subject design studies demonstrated large effects on improvement in caregiver psychological flexibility (Han et al., 2020). Due to the limited literature connecting ambiguous loss theory and psychological flexibility for AFMs, research related to psychological flexibility with families in other ambiguous loss situations is included in this review, such as the COVID-19 pandemic, other mental health disorders, and dementia.

Notably, Boss (2022) identified the COVID-19 pandemic as another ambiguous loss situation, in which many people experienced the contradiction of absence and presence within their family systems and relationships in general. To illustrate, Prudenzi and associates (2022) found increased psychological flexibility related to improved psychological health outcomes for 439 people living in the United Kingdom during the strain of the COVID-19 pandemic. Other researchers found evidence that increased psychological flexibility (i.e., specifically involving defusion, self-as-context, values, and committed action) related to reduced negative effects of the pandemic on mental health outcomes in Italy (Pakenham et al., 2020) and the United Kingdom (Dawson & Golijani-Moghaddam, 2020).

ACT, which enhances psychological flexibility, has demonstrated efficacy in supporting family caregivers in other psychologically ambiguous loss situations. For instance, Quinlan and associates (2018) tested ACT interventions on caregivers of people (N = 24) with mental health diagnoses (e.g., anxiety [54.2%], depression [41.7%], post traumatic stress disorder [20.8%], bipolar disorder [25%], and at-risk substance use [8%] in a within-subject design; results indicated “significant improvements in interpersonal problems, experiential avoidance, caregiving avoidance, mindfulness and wellbeing over time” (p. 53). Further, participants
indicated caregiver acceptance and fostering connections in groups as beneficial (Quinlan et al., 2018), which would align with ambiguous loss recommendations for relational, community interventions (Boss, 2006). Although AFMs were not addressed in the previous study specifically, some caregivers endorsed family members' substance use as a secondary concern. In a different example of psychologically ambiguous loss situations related to brain injury, psychological flexibility was the strongest predictor of decreased depression \((p < .001)\), decreased anxiety \((p < .001)\), and increased life satisfaction \((p < .001)\) in family caregivers \((N = 145; \text{Rickardsson et al., 2022})\). Just as there are elements in psychological flexibility and ambiguous loss research associated with wellness and resilience, there are also factors associated with dysfunction, mental health decline, and distress.

**Ambiguous Loss and Distress**

Ambiguous loss situations are described as more emotionally taxing than actual death, in that there is ongoing bewilderment and distress related to loss with no conclusion (Boss, 2006). The lack of clarity related to the loss can cause complicated grief, traumatic stress symptoms, and family discord. Boss (2006) stated, “The persisting ambiguity blocks cognition, coping, meaning-making and freezes the grief process” (p. 17). In one study, Boss and colleagues (1990) surveyed 70 caregivers of people with dementia during a five-year time span on measures of boundary ambiguity, perceived helplessness, and depressive symptoms. They found the more caregivers viewed family members as being psychologically gone (i.e., higher boundary ambiguity), the higher they scored on measures of helplessness and depression. Therefore, higher
levels of boundary ambiguity are associated with poorer mental health outcomes in ambiguous loss situations.

Ambiguous loss has been linked to traumatic stress symptoms. Boss (2006) concluded, “Ambiguous loss is traumatic because it is painful, immobilizing, and incomprehensible so that coping is blocked. It is akin to the trauma that causes post traumatic stress disorder (PTSD) in that it is a painful experience far beyond normal human expectations. But unlike PTSD, it remains in the present; that is, the traumatizing experience (the ambiguity) often continues for years” (p. 139). PTSD is a mental illness in which a disturbing and often violent event(s) occurs, which leads to symptoms of re-experiencing, avoidance, hyperarousal, and adverse changes to beliefs and emotions (APA, 2022). Although she noted the similarities between the two, Boss (2006) asserted there are key differences between PTSD and ambiguous loss traumatic stress: PTSD is a mental illness whereas ambiguous loss is a relational illness. PTSD involves completed traumatic event(s) versus ambiguous loss related to long-lasting, ongoing traumatic ambiguity.

Furthermore, Boss (2006) asserted family distress is caused by the debilitating ambiguity of loss, which can be exacerbated in control-oriented cultures that glorify problem solving. Ambiguous losses involve chronic problems and stressors with no solution, which can be especially stigmatized in control-oriented cultures. Consequently, ambiguous loss situations can be especially challenging to describe and address. In fact, Boss (2006) emphasized that “the pathology lies in the type of loss (unclear and irresolvable) and not in the family or individual experiencing it” (p. 280). Moreover, Boss highlighted that family members experiencing ambiguous losses are vulnerable to stigmatization, which can further contribute to their distress
and isolation. If AFMs are not comfortable seeking support due to perceived addiction stigma and shame (Tamutiene & Laslett, 2017), especially in control-oriented cultures, distress can escalate as resiliency is diminished according to ambiguous loss theory (Boss, 2006). AFMs are a population particularly vulnerable to societal blame and addiction stigma (Corrigan et al., 2006).

To illustrate the effects of stigma on various families, researchers investigated caregivers of people with intellectual disabilities and mental health disorders (i.e., other types of psychologically ambiguous losses); they found stigma significantly related to perceived caregiver burden and stress ($p < .001$), and stigma accounted for 25% of the variance in negative caregiver attitudes (Mak & Cheung, 2008). In addition, Mechling and associates (2018) explored ambiguous loss research related to children of parents with opioid use disorder (OUD). Stigma emerged as an obstacle for children to access support and resources; they often kept their losses quiet due to societal stigma and feared legal outcomes, which can lead to increased shame and dysfunction (Mechling et al., 2018).

Specifically related to the experience of internalized stigma, D’Aniello and associates (2021) explored the relationship between AFMs’ internalized addiction stigma, caregiver tasks, and distress. Compared to family members not affected by addiction, AFMs are more likely to experience increased financial burdens and mental illness, which is connected to Goffman’s “courtesy stigma or stigma by association” (D’Aniello et al., 2021, p. 2). Once negative labels attached to addiction are believed by AFMs (i.e., internalization of addiction stigma), they are more likely to experience distress and mental health concerns (D’Aniello et al., 2021) just like people with addictions (Luoma et al., 2008). The previous research linking addiction stigma to
AFM distress aligns well with ambiguous loss theory. That is, Boss (2006) identified stigma as a barrier to ambiguous loss resiliency because it harms positive identity recreation and support-seeking behavior. Additionally, psychological flexibility could benefit AFMs coping with addiction stigma and distress, yet psychological inflexibility could be particularly harmful.

**Psychological Flexibility and Distress**

According to Hayes and colleagues (2012), there are six core processes of psychological inflexibility: experiential avoidance, cognitive fusion, conceptualized past and future, self-as-content, disconnection from values, and inaction. First, experiential avoidance means attempting to suppress or fight present-moment internal experiences. Second, cognitive fusion means letting negative thoughts affect actions. Third, conceptualized past and future means a focus on past experiences and future expectations, at the expense of the present moment. Fourth, self-as-content means rigid adherence to identity labels and stories. Fifth, disconnect from values means difficulty identifying principles of personal importance. Sixth, inaction means not acting in values-based ways.

Higher psychological inflexibility is associated with increased symptoms of distress, depression, and anxiety in the general population (Ruiz, 2010). Additionally, Tavakoli and associates (2019) found in a sample of 538 college students, as psychological inflexibility increased, so did their anxiety, stress, and worry. Also, in a large sample ($N = 955$), researchers found cognitive fusion and avoidance (i.e., two processes of psychological inflexibility)
predicted distress, traumatic stress, depression, and anxiety and cognitive fusion and avoidance demonstrated interaction effects with all previous measures of distress (Bardeen & Fergus, 2016). For AFMs, who are vulnerable to distress and stigma (Corrigan et al., 2006), psychological inflexibility is a key variable to explore, which has been unaddressed in the previous research for this population specifically.

In contrast, psychological flexibility (i.e., mindfulness, experiential acceptance, and values) is a measure of well-being linked to improved mental health outcomes and reduction of internalized addiction stigma for people with SUD (Luoma et al., 2013). In an earlier within-subject study, Luoma et al. (2008) investigated how improved psychological flexibility through participation in 6 hours of an ACT-based workshop resulted in decreased internalized addiction stigma for people with SUD. Specifically, after the ACT intervention, participants endorsed increased psychological flexibility, decreased emotional avoidance strategies, and decreased internalized addiction stigma.

Furthermore, Livingston and colleagues (2012) found negative relationships between psychological flexibility and internalized stigma for people with SUD. That is, for people with SUD, increased psychological flexibility is related to decreased internalized stigma. Similarly, a meta-analysis provided further evidence of this relationship between constructs: decreased psychological inflexibility was related to decreased stigma outcomes across 15 out of 16 studies (Krafft et al., 2018). Despite these previous findings, researchers have yet to measure the relationship between psychological flexibility and distress versus resilience for AFMs. This study was an exploration to identify whether there is a parallel link between the experiences of
people with AUD and AFMs. Furthermore, variables of boundary ambiguity, psychological flexibility, and psychological inflexibility for AFMs were explored in this study.

**Ambiguous Loss, Psychological Flexibility, and Distress**

Boss (2006) asserted flexible, dialectal thinking would support family coping with ambiguous loss situations. In contrast, Boss (2006) connected ambiguous loss distress to perceived helplessness, lack of meaning, discrimination, and rigid perceptions of attachment. Psychological inflexibility is linked to decreased mental health outcomes (Gloster et al., 2017) and would be a valuable construct to understand in relation to AFM distress. To my knowledge, there are no other published studies addressing psychological flexibility, ambiguous loss, and distress of AFMs. Due to a gap in the literature for AFMs, research related to psychological inflexibility in families with other ambiguous loss situations will be included in this review. That is, research including physical ambiguous losses related to missing family members and the COVID-19 pandemic will be presented in relation to distress. Then research including psychological ambiguous losses related to chronic disorders, traumatic brain injury, and dementia will be presented in relation to distress.

Psychological inflexibility in relation to physically ambiguous losses (i.e., physical absence and psychological presence) can include missing family members and the COVID-19 pandemic. In a sample of 110 people with missing family members, Kennedy and associates (2021) investigated psychological inflexibility, intolerance of uncertainty (IU, i.e., “belief that
uncertainty is stressful, should be avoided, and have difficulties functioning in uncertain situations’”), and grief and trauma symptoms (p. 48). Kennedy and colleagues found psychological inflexibility mediated the relationship between IU and symptoms of distress, grief, and trauma. Next, the COVID-19 pandemic has been another physically ambiguous loss situation for many people (Boss, 2022). Many researchers have already investigated psychological inflexibility with lock-down distress during the pandemic (Daks et al., 2020; Hernández-López et al., 2021; Pakenham et al., 2020; Smith et al., 2020). Daks and associates (2020) studied the effect of pandemic stress on 742 parents and found psychological inflexibility predicted increased stress, family conflict, and distress. In another study located in Spain, researchers surveyed participants during the pandemic across time and found psychological inflexibility predicted deteriorating mental health outcomes (Hernández-López et al., 2021). In Italy, researchers found evidence that psychological inflexibility (i.e., specifically involving mindlessness, cognitive fusion, disconnect from values, and self-as-content) increased the negative effects of the pandemic on mental health outcomes (Pakenham et al., 2020). Last, Smith and associates (2020) found evidence that during the pandemic lock-down, a combination of psychological inflexibility, avoidance, and intolerance of uncertainty (IU) moderated the relationship between social separation and distress.

In cases of psychologically ambiguous loss situations (i.e., psychological absence and physical presence), traumatic brain injury and dementia are presented in the literature. For example, in a study of 91 caregivers of people with dementia, psychological inflexibility predicted caregiver quality-of-life outcomes ($p < .001$) and accounted for 24% of the variance in quality-of-life outcomes. Increased psychological inflexibility was related to decreased quality of
life for caregivers (Contreras et al., 2021). In addition, in another study of dementia caregivers 
\(N = 149\), “psychological inflexibility and thought suppression accounted for between 40 and 
46\% of the variance in the depression and anxiety outcomes and 15\% of the variance in the 
physical domain of quality of life” (Lappalainen et al., 2021, p. 129). Moreover, Kishita and 
colleagues (2020) found psychological inflexibility predicted anxiety outcomes for dementia 
caregivers.

Another psychologically ambiguous loss includes family members caring for people with 
developmental disorders and mental health conditions. First, in a randomized control trial with 
parents of children with autism spectrum disorder \(N = 18\), an ACT intervention group endorsed 
decreased shame \(p < .005\) and depression \(p < .02\) compared to the control group (Hahs et al., 
2019). Thus, ACT interventions lead to decreased unwanted emotions and depression symptoms; 
this connection in the literature could possibly aid AFMs. For 101 family caregivers of people 
with psychosis, psychological flexibility predicted caregiver distress, and increased 
psychological inflexibility related to increased distress \(p < .009;\) Jansen et al., 2017). Thus, this 
study was an exploration of the relationship among constructs of boundary ambiguity, 
psychological flexibility, and psychological inflexibility for AFMs, which could connect their 
ambiguous loss situations to evidence-based ACT interventions to enhance psychological 
flexibility and possibly resilience. These connections between previous variables for other 
populations could advance the research for AFMs.
Summary

Psychological flexibility is rooted in experiential acceptance and values-based actions (Hayes et al., 2012), which is much like Al-Anon’s principles to accept powerlessness over others and their addictions while focusing on values of self-care, service, and humility (Al-Anon, 2005) and ambiguous loss theory indicating ambiguity tolerance is the basis for resilience (Boss, 2006). Boss (2006) identified flexible, dialectical thinking as foundational to enhancing ambiguous loss resilience, yet psychological flexibility, which emphasizes open, flexible internal processes, has had minimal exploration in the ambiguous loss literature for AFMs. Furthermore, Boss highlighted a community-based or relational approach to counseling services as fundamental to supporting family members coping with ambiguous loss situations. For AFMs, Al-Anon is an international supportive forum that could provide essential community support. By means of Boss’ contextual model of family stress (CMFS) framework, if differences among AFMs’ ambiguous loss situation, at-risk perceptions (i.e., psychological inflexibility, boundary ambiguity), and individual resources (i.e., psychological flexibility) on subsequent distress versus resilience is based on varying levels of Al-Anon involvement, it could provide evidence illustrating the need for AFM community support and contextual approaches to mental health counseling. Thus, this study explored relationships among potential factors that could predict AFM ambiguous loss resilience versus distress. This study focused on AFMs, as they are often an overlooked population in research and a stigmatized population in society, in an effort to advance social justice initiatives. This study sought to determine whether relationships exist between influential variables from two relevant, contextual theories (i.e., ambiguous loss theory
and relational frame theory) that could affect future multiculturally responsive conceptualizations and interventions for AFMs in counselor education and supervision. Thus, this study was an exploration of relationships among constructs of boundary ambiguity, psychological flexibility, psychological inflexibility, Al-Anon involvement, distress, and resilience for AFMs, which will advance the research for this population and social justice initiatives in counselor education and supervision.
CHAPTER 3

METHOD

Study Design

This study was a quantitative cross-sectional and correlational investigation designed to understand how AFMs’ Al-Anon involvement is related to associated factors of distress and ambiguity tolerance. Specifically, this was an investigation of differences among self-reported Al-Anon involvement (i.e., no involvement, newcomer, member) in terms of psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance. This study explored whether psychological flexibility, psychological inflexibility, and boundary ambiguity could predict AFMs’ distress outcomes. This study explored whether psychological flexibility, psychological inflexibility, and boundary ambiguity could predict AFMs’ ambiguity tolerance outcomes. A quantitative design was most appropriate to test variables based on previously established theories (Creswell & Guetterman, 2019) of ambiguous loss theory (Boss, 2006) and relational frame theory (Hayes et al., 2004) through a postpositivist lens (Kivunja & Kuyini, 2017). In addition, the research questions in this study, which explored differences
among Al-Anon involvement groups as well as relationships among variables informed by previous theories, worked well with a non-experimental design.

**Participants**

The recruitment of participants occurred with nonprobability convenience sampling with an online, paid survey platform called Amazon Mechanical Turk (MTurk). Inclusion criteria for study participation included adult (i.e., 18 years old or older) family members of loved ones with alcohol use disorders or alcohol addictions. Family members included spouses, parents, grandparents, siblings, and extended family members. In this study, the sample size was considered carefully to reduce sampling error and enhance the generalizability of results (Creswell & Guetterman, 2019). First, G-power analyses with a power of .80, alpha of .05, and medium effect size of .30 indicated the following minimum sample sizes needed per statistical procedure: 159 participants the for one-way ANOVA model with three levels, 84 participants for the two-tail bivariate correlation model, 80 participants for the multiple linear regression model with three predictors, and 55 participants for the basic moderated regression model with three predictors (Faul et al., 2009; Faul et al., 2007). Second, Aguinis et al. (2021) recommended adding 15 to 30% more participants to the sample size determined by G-power to account for potential participant attrition during the MTurk sampling method. Thus, 200 participants or more provided sufficient power for this study to accommodate the largest needed sample size and avoid Type II errors based on G-power calculations.
Instruments

Demographic information was collected on participants’ gender, age, race, and education level (U.S. Census Bureau, 2021); demographic information based on Al-Anon survey measures on relationship status, religious or spiritual practice (i.e., yes versus no), and relationship to a family member with AUD; and Al-Anon involvement (Al-Anon Family Group Headquarters Inc., 2015; see Appendix C). Specifically, Al-Anon involvement was measured categorically as follows: I have never attended an Al-Anon meeting (no involvement), I have attended six or fewer Al-Anon meetings (newcomer), or I have attended more than six Al-Anon meetings (member; Timko, Cronkite, et al., 2014). Next, participants completed four additional instruments: Boundary Ambiguity Scale #6, Multidimensional Psychological Flexibility Inventory-24 (MPFI-24), Multiple Stimulus Types Ambiguity Tolerance Scale–II (MSTAT-II), and the Kessler Psychological Distress Scale. Evidence of the validity and reliability of each assessment was considered. Fleiss’s (1971) model evaluated the Cronbach’s alpha reliability scores of each instrument as excellent (.75 to 1.00), good (.60 to .74), fair (.40 to .59), and poor (less than .40).

**Boundary Ambiguity Scale #6**

The Boundary Ambiguity Scale #6 contained 14-items related to boundary ambiguity, in which participants rate how they feel on a 5-point Likert scale: 1 (strongly disagree), 2
(disagree), 3 (agree), and 4 (strongly agree), and 5 (unsure how I feel; Boss et al., 1990).

Boundary ambiguity is “a state in which family members are uncertain in their perceptions of who is in or out of the family and who is performing what roles and tasks within that system” (p. 246). A composite score is calculated based on the summation of ratings. Higher composite scores are interpreted as increased levels of boundary ambiguity with family members. An example item is as follows: “I feel I cannot go anywhere without first thinking about ______’s needs” (p. 260). The Boundary Ambiguity Scale is adapted from surveys typically given to family caregivers of people with dementia and other types of ambiguous loss situations. Like family members of people with dementia, family members of people with addictions often need to renegotiate caregiver and relational boundaries due to the illness, and therefore this adaption is appropriate. Further, Boss et al. (1990) stated, “Testing this work on families where there are ambiguous losses from other chronic illnesses, such as AIDS, schizophrenia, autism, alcoholism, or Parkinson’s disease, is encouraged” (p. 260). In a longitudinal study with caregivers of dementia, Boss and colleagues (1990) found the Boundary Ambiguity Scale #6 demonstrated divergent validity with low correlations to mastery ($r = -.31, p < .01$) and patient functioning ($r = -.26, p < .05$), moderate convergent validity with patient behavior problems ($r = .53, p < .0001$), predictive validity accounting for 24% of the variance in caregiver depression, and excellent reliability with Cronbach’s alpha of .80 (see Appendix D).
The Multidimensional Psychological Flexibility Inventory-24 (MPFI-24) is a 24-item, shortened adaptation of the original 60-item scale (Rolffs et al., 2018) measuring processes of psychological flexibility versus psychological inflexibility (Gregoire et al., 2020). Participants rate each item on a 6-point Likert scale as follows: 1 (never true), 2 (rarely true), 3 (occasionally true), 4 (often true), 5 (very often true), and 6 (strongly true). The MPFI-24 yields two separate composite scores: one composite score represents psychological flexibility and the other composite score represents psychological inflexibility. Researchers tested the psychometric properties of the MPFI-24 within three different studies: Study 1 (2,668 English-speaking participants within the U.S.); Study 2 (33 French-speaking university students), and Study 3 (728 French-speaking employees). Researchers demonstrated preliminary support of convergent validity through the correlation of subscales with other measures of psychological flexibility. The results of the subscale correlations were in the predicted directions. The Cronbach’s alphas for MPFI-24 composite scores were excellent, with an average of .83 (ranging from .71 to .92).

The MPFI-24 has six psychological flexibility subscales included with average Cronbach alpha calculations in parentheses: acceptance (.65), present moment awareness (.71), self-as-context (.77), defusion (.83), contact with values (.82), and committed action (.85). The following are representative items from each psychological flexibility subscale: acceptance (“I was receptive to observing unpleasant thoughts and feelings without interfering with them”); present moment awareness (“I was in tune with my thoughts and feelings from moment to
moment”); self-as-context (“I carried myself through tough moments by seeing my life from a larger viewpoint”); defusion (“I was able to let negative feelings come and go without getting caught up in them”); contact with values (“I was very in-touch with what is important to me and my life”); and committed action (“Even when I stumbled in my efforts, I didn't quit working toward what is important”; Gregoire et al., 2020, p. 108). All six psychological flexibility subscale scores are averaged to create a distinct psychological flexibility composite score. The Cronbach’s alpha was excellent, with an average of .87 for the psychological flexibility composite score. The psychological flexibility composite score had moderate convergent validity with the Committed Action Questionnaire ($r = .56, p < .001$), Clarity of Values Scale ($r = .43, p < .001$), and Coherence of Values Scale ($r = .46, p < .001$), and adequate divergent validity with low correlations in expected directions with other psychological flexibility scales, such as the Acceptance and Action Questionnaire ($r = -.42, p < .001$), Cognitive Fusion Questionnaire ($r = -.33, p < .001$), and reverse-scored Mindful Attention Awareness Scale ($r = -.19, p < .001$) in expected directions.

The MPFI-24 has six psychological inflexibility subscales included with average Cronbach’s alpha calculations in parentheses: experiential avoidance (.83), lack of contact with the present moment (.89), self-as-content (.84), fusion (.89), lack of contact with values (.77), and inaction (.80). The following are items from each subscale: experiential avoidance (“When I had a bad memory, I tried to distract myself to make it go away”); lack of contact with the present moment (“I did most things on ‘automatic’ with little awareness of what I was doing”); self-as-content (“I criticized myself for having irrational or inappropriate emotions”); fusion (“Negative thoughts and feelings tended to stick with me for a long time”); lack of contact with
values (“My priorities and values often fell by the wayside in my day-to-day life”); and inaction (“Negative feelings often trapped me in inaction”; Gregoire et al., 2020, p. 108). All six psychological inflexibility subscale scores are averaged to create a distinct psychological inflexibility composite score. The Cronbach’s alpha was excellent, with an average of .86 for the psychological inflexibility composite score. Researchers demonstrated that the psychological inflexibility composite score had adequate divergent validity with low correlations in expected directions to the Clarity of Values Scale ($r = -.27, p < .001$) and Coherence of Values Scale ($r = -.37, p < .001$) and moderate convergent validity with psychological inflexibility measures, such as the Acceptance and Action Questionnaire ($r = .61, p < .001$) and Cognitive Fusion Questionnaire ($r = -.62, p < .001$; see Appendix E).

**Multiple Stimulus Types Ambiguity Tolerance Scale-II**

The Multiple Stimulus Types Ambiguity Tolerance Scale–II (MSTAT-II) is a 13-item scale that measures ambiguity tolerance (McLain, 2009). Participants rate each item on a 5-point Likert scale ranging from 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), to 5 (strongly agree). The scale developer used the definition of ambiguity tolerance (AT) as “an orientation, ranging from aversion to attraction, toward stimuli that are complex, unfamiliar, and insoluble” (p. 975). The MSTAT-II has four items that are reverse-scored before calculating composite scores. The lower composite score indicates a dislike of ambiguity, whereas higher scores
indicate a preference toward ambiguity. The MSTAT-II has four subscales (an example item is included for each): novel (“I prefer familiar situations to new ones”); insoluble (“Problems that cannot be considered from just one point of view are a little threatening”); uncertain (“I find it hard to make a choice when the outcome is uncertain”); and general (“I don’t tolerate ambiguous situations well”; McLain, 2009, p. 979). McLain selected scale items based on adherence to the previous definition, situation neutrality, and moderate item correlations to other ambiguity scales (i.e., greater than .40). McLain demonstrated the MSTAT-II had excellent score reliability with Cronbach’s alpha of .83 with 542 undergraduate students. Other researchers have used this scale to explore ambiguity tolerance based on ambiguous loss theory with Cronbach’s alpha of .85 indicating excellent reliability (Kale-Cheever, 2015). The MSTAT-II demonstrated close to moderate convergent validity with the MacDonald AT-20 Ambiguity Tolerance Scale ($r = .40, p < .01$) and divergent validity with low correlations to the Zuckerman Sensation Seeking Scale ($r = .27, p < .01$) and Risk-Taking Propensity Scale ($r = .33, p < .01$; see Appendix F).

**Kessler Psychological Distress Scale**

The Kessler Psychological Distress Scale (K10) measures psychological distress on a 10-item scale (Kessler et al., 2003). Participants rate on a 5-point Likert scale how often they experienced symptoms of distress in the past four weeks: 1 (none of the time), 2 (a little of the time), 3 (some of the time), 4 (most of the time), and 5 (all of the time). An example of an item indicating psychological distress is: “About how often did you feel so sad that nothing could
cheer you up?” (p. 185). K-10 scores are summed and range from 10 to 50; lower composite scores indicated lower psychological distress. The K-10 demonstrated excellent score reliability with Cronbach’s alpha of .93, moderate predictive validity with the Comprehensive International Diagnostic Interview–Short Form ($r = .69$, $p < .05$), and high predictive validity with the World Health Organization Disability Assessment Schedule ($r = .71$, $p < .05$; see Appendix G).

**Materials**

Materials needed for this study included the MTurk online platform, which provided access to the informed consent, survey measures, and a debriefing script. Recruitment occurred within the MTurk platform (see Appendix A). The informed consent included the study purpose, procedures, potential risks and benefits, confidentiality procedures, voluntary nature of the study, and compensation information (see Appendix B). Online survey measures included the following: Demographic and Al-Anon Involvement Questionnaire (see Appendix C), Boundary Ambiguity Scale #6 (see Appendix D), Multidimensional Psychological Flexibility Inventory-24 (see Appendix E), Multiple Stimulus Types Ambiguity Tolerance Scale–II (see Appendix F), Kessler Psychological Distress Scale (see Appendix G), and Debriefing Script (see Appendix H).
Procedure

This study was reviewed and approved by the Institutional Review Board to confirm an ethically appropriate research procedure to protect the safety of all participants (see Appendix J). All survey materials were posted and collected virtually through Amazon Mechanical Turk (MTurk), which is an outsourcing survey platform that compensates participants for the completion of surveys. Participants were recruited through MTurk. During recruitment, participants reviewed the study purpose, inclusion criteria, potential risks and benefits, compensation procedures, anonymity, and voluntary nature of involvement (see Appendix A). This study’s principal investigator compensated participants through the MTurk platform. MTurk participants began the study by reading through the informed consent agreement, which includes that compensation was contingent upon the completion of all survey measures (see Appendix B). After reviewing the informed consent, participants confirmed their understanding of the study purpose, compensation process, and procedures to protect their anonymity. Participants who agreed to the informed consent gained access to the online survey measures. Next, participants completed all survey measures included in this study. The completion of these surveys took participants an estimated 15 to 20 minutes. Survey questions were in forced-choice format. After the completion of all surveys, participants viewed a debriefing statement with identifiable warning signs indicating when additional support could be needed and national mental health resources were included (see Appendix H). Participants were compensated up to 1 US dollar to complete their surveys within their MTurk account.
Research Questions

1. Are there differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon?

2. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict distress outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?

3. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict ambiguity tolerance outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?
Hypotheses

1. There will be differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon.

The following are correlational hypotheses:

1.a. There will be a positive relationship among AFMs’ increased Al-Anon involvement (i.e., newcomers and members) and increased psychological flexibility among AFMs compared to no Al-Anon involvement.

1.b. There will be a negative relationship among AFMs’ increased Al-Anon involvement (i.e., newcomers and members) and decreased psychological inflexibility among AFMs compared to no Al-Anon involvement.

1.c. There will be a negative relationship among AFMs’ increased Al-Anon involvement (i.e., newcomers and members) and decreased boundary ambiguity.

1.d. There will be a negative relationship among AFMs’ increased Al-Anon involvement (i.e., newcomers and members) and decreased distress compared to no Al-Anon involvement.

1.e. There will be a positive relationship among AFMs’ increased Al-Anon involvement (i.e., newcomers and members) and increased ambiguity tolerance compared to no Al-Anon involvement.
2. AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity will predict distress outcomes.

   a. The relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes will be moderated by Al-Anon involvement (no involvement, newcomer, member).

3. AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity will predict ambiguity tolerance outcomes.

   a. The relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes will be moderated by Al-Anon involvement (no involvement, newcomer, member).

**Analyses**

In this study, SPSS was utilized to obtain descriptive and statistical analyses on all measures. All incomplete data sets due to attrition were removed from the data analyses. To answer the first research question, five separate one-way between-subjects analyses of variance (ANOVAs) were conducted with Al-Anon involvement as the independent variable with three levels (not involved, newcomer, member). The ANOVAs identified whether there were differences among various levels of Al-Anon involvement on interval measures of psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance with an alpha of .05. ANOVA assumptions of normal distribution and homogeneity of variance
were checked prior to analyses (Pallant, 2010). Next, Pearson product-moment correlational analyses were considered to explore the strength and direction of relationships among all variables. To answer the second research question, a standard multiple linear regression analysis identified whether psychological flexibility, psychological inflexibility, and boundary ambiguity predicted distress outcomes for AFMs. Also, Al-Anon involvement was investigated as a moderator in the previous regression model. To answer the third research question, a standard multiple linear regression analysis identified whether psychological flexibility, psychological inflexibility, and boundary ambiguity predicted ambiguity tolerance outcomes for AFMs. Al-Anon involvement was investigated as a moderator in the previous regression model. For the second and third research questions, a standard regression model allowed for an exploration of the amount of variance accounted for by each variable while controlling for the others (Pallant, 2010). The regression model was checked for outliers, normality, linearity, homoscedasticity, and independence of residuals (Pallant, 2010).

**Limitations**

This study was limited due to several factors. The chosen method of recruitment, convenience sampling through the MTurk platform, lowered the representation and generalizability of these study results (Creswell & Guetterman, 2019). To account for a lack of random sampling, the principal investigator included a robust sample size well above the minimum G-power calculations to demonstrate sufficient power and reduce Type II error (Faul
et al., 2007). The MTurk platform yielded survey results quickly, yet it limited the sample
customers to only people registered on this specific platform. Researchers have demonstrated
enhanced demographic diversity with samples recruited on this platform (Aguinis et al., 2021;
Mullen et al., 2021). Yet there was a risk of including participants who are not part of the study
focus in the results (Kim & Oh., 2022). To address this limitation, the majority of MTurk
participants with high (versus low) ratings were recruited in this study to buffer against poor
performance and dishonesty (Kim & Oh, 2022). Additionally, AFMs and Al-Anon members
were a difficult-to-reach population in the research, especially due to the Al-Anon emphasis on
anonymity and rules against outside source interference. MTurk was an identified platform that
worked well for difficult-to-reach populations (Mullen et al., 2021). Lastly, this study was
limited due to participant self-report, which can be affected by social desirability bias (i.e., the
degree to which participants are willing to be truthful based on topic sensitivity; Creswell &
Guetterman, 2019). To address this limitation, the principal investigator had no direct contact
with participants, which can decrease social desirability bias due to protected anonymity.
CHAPTER 4

DATA ANALYSIS AND RESULTS

Introduction

This chapter is a synopsis of the data collection, analyses, and results of this study. This chapter is organized as follows: restated problem statement, research questions, and methods. Next, statistical analyses are presented with participant and instrument descriptive statistics, assumptions check, between-subjects test results, multiple linear regression results, and moderation results.

Problem Statement

There has been a lack of ambiguous loss (Carroll et al., 2007) and relational frame research specific to AFMs. Ambiguous losses can result in severe negative mental health outcomes, ranging from depression and anxiety (Boss et al., 1990) to traumatic stress symptoms
(Boss, 2006). Effective interventions grounded in appropriate theory and research are needed to support AFMs specifically. The application of ambiguous loss theory to counseling practice connected community support groups as an essential protective factor (Boss, 2006). Therefore, community support groups, such as Al-Anon may relate to family members’ mental health and resilience. Ambiguous loss theory can offer counselors and supervisors useful ways to conceptualize AFMs’ presenting concerns and subsequent interventions and recommendations. It is valuable to understand whether there is a relationship among AFMs’ experiences of ambiguous loss in terms of community support (e.g., Al-Anon), boundary ambiguity, distress, and resilience.

Relational frame research informed the development of Acceptance and Commitment Therapy (ACT; Hayes, 2004), an evidence-based, mindful approach to support people’s wellness (Hayes, 2022). ACT interventions increase psychological flexibility and decrease psychological inflexibility (Hayes, 2004). Despite the mental health benefits of enhanced psychological flexibility (Gloster et al., 2017), especially for stigmatized people with addictions (Luoma et al., 2013), AFMs have not been included in the literature. Similarly, AFMs can experience addiction stigma alongside their family members (Corrigan et al., 2006; D’Aniello et al., 2021), which can result in isolation and declined efforts to connect with community support (McDonagh et al., 2019). Thus, it is clinically useful to explore how psychological flexibility would may relate to AFMs’ Al-Anon involvement, boundary ambiguity, distress, and resilience.
Research Questions

1. Are there differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon?

2. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict distress outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?

3. To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict ambiguity tolerance outcomes?
   a. Is the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes moderated by Al-Anon involvement (no involvement, newcomer, member)?

Methods

The recruitment of participants occurred with nonprobability convenience sampling with an online survey platform called Amazon Mechanical Turk (MTurk). All participants were compensated $1 after completing all survey measures. Inclusion criteria for study participation
included adult family members of loved ones with AUD or alcohol addictions. Family members included spouses, parents, grandparents, siblings, and extended family members. Based on previous G-power analyses, the minimum sample size needed was 159 participants (Faul et al., 2009; Faul et al., 2007), yet researchers recommended adding 15% to 30% more participants to the minimum sample size, accounting for potential participant attrition with MTurk sampling method (Aguinis et al., 2021). For this study, 361 data responses were collected in total, yet due to attrition, 51 incomplete data sets were excluded from these analyses. Thus, 310 total data sets were included in these analyses. Participants’ responses were collected in batches, with most of the data coming from participants with excellent reviews on the platform. Yet due to difficulty recruiting Al-Anon members on the MTurk platform, the study surveys were later made available to any MTurk participant if they identified as Al-Anon members. These specific recruitment attempts were to address the unequal sample sizes among non-involved Al-Anon participants, Al-Anon newcomers, and Al-Anon members. Despite multiple attempts to recruit more Al-Anon members on the MTurk platform, sample sizes remained unequal, which did affect subsequent statistical test considerations and analyses for between-subjects tests specifically.

**Participant Characteristics**

This study included 361 total participants; 51 participants were excluded from analyses due to attrition. Thus, these analyses included 310 total participants. Descriptive statistics were
reviewed prior to analyses for all categorical variables using frequencies (Pallant, 2010). Categorical variables included gender, age, race, education, relationship status, religious or spiritual practice, relationship to drinker, and Al-Anon involvement (see Table 1).

Table 1
Participant Characteristics

<table>
<thead>
<tr>
<th>Participant Characteristics</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>114(36.8%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18 to 19</td>
<td>1(.3%)</td>
</tr>
<tr>
<td>20 to 24</td>
<td>15(4.8%)</td>
</tr>
<tr>
<td>25 to 29</td>
<td>74(23.9%)</td>
</tr>
<tr>
<td>30 to 34</td>
<td>90(29.0%)</td>
</tr>
<tr>
<td>35 to 39</td>
<td>55(17.7%)</td>
</tr>
<tr>
<td>40 to 44</td>
<td>27(8.7%)</td>
</tr>
<tr>
<td>45 to 49</td>
<td>15(4.8%)</td>
</tr>
<tr>
<td>50 to 54</td>
<td>7(2.3%)</td>
</tr>
<tr>
<td>55 to 59</td>
<td>9(2.9%)</td>
</tr>
<tr>
<td>60 to 64</td>
<td>8(2.6%)</td>
</tr>
<tr>
<td>65 to 69</td>
<td>8(2.6%)</td>
</tr>
<tr>
<td>75 to 79</td>
<td>1(.3%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>192(61.9%)</td>
</tr>
<tr>
<td>African American</td>
<td>16(5.2%)</td>
</tr>
<tr>
<td>American Indian</td>
<td>10(3.2%)</td>
</tr>
<tr>
<td>Asian</td>
<td>83(26.8%)</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>2(.6%)</td>
</tr>
<tr>
<td>Hispanic/Latino/a</td>
<td>7(2.3%)</td>
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(Continued on following page)
Table 1 continued

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<thead>
<tr>
<th>Education</th>
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<tbody>
<tr>
<td>High school/No diploma</td>
<td>2(0.6%)</td>
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<tr>
<td>High school/GED</td>
<td>3(1.0%)</td>
</tr>
<tr>
<td>High school/Diploma</td>
<td>15(4.8%)</td>
</tr>
<tr>
<td>College/No degree</td>
<td>19(6.1%)</td>
</tr>
<tr>
<td>Associate Vocational</td>
<td>17(5.5%)</td>
</tr>
<tr>
<td>Associate Academic</td>
<td>4(1.3%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>198(63.9%)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>49(15.8%)</td>
</tr>
<tr>
<td>Professional degree</td>
<td>2(0.6%)</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>1(0.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>244(78.7%)</td>
</tr>
<tr>
<td>Partnered</td>
<td>14(4.5%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>3(1.0%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>4(1.3%)</td>
</tr>
<tr>
<td>Separated</td>
<td>8(2.6%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Religion or Spirituality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>248(80.0%)</td>
</tr>
<tr>
<td>No</td>
<td>62(20.0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship to drinker</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband/fiancé</td>
<td>87(28.1%)</td>
</tr>
<tr>
<td>Father/step-father</td>
<td>112(36.1%)</td>
</tr>
<tr>
<td>Son/step-son</td>
<td>24(7.7%)</td>
</tr>
<tr>
<td>In-Laws</td>
<td>33(10.6%)</td>
</tr>
<tr>
<td>Brother/step-brother</td>
<td>71(22.9%)</td>
</tr>
<tr>
<td>Ex-Spouse</td>
<td>23(7.4%)</td>
</tr>
<tr>
<td>Uncle/aunt</td>
<td>48(15.5%)</td>
</tr>
<tr>
<td>Grandparent</td>
<td>30(9.7%)</td>
</tr>
<tr>
<td>Mother/step-mother</td>
<td>33(10.6%)</td>
</tr>
<tr>
<td>Wife/fiancé</td>
<td>31(10.0%)</td>
</tr>
<tr>
<td>Daughter/step-daughter</td>
<td>12(3.9%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Al-Anon Involvement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>137(44.2%)</td>
</tr>
<tr>
<td>Newcomer</td>
<td>100(32.3%)</td>
</tr>
<tr>
<td>Member</td>
<td>73(23.5%)</td>
</tr>
</tbody>
</table>
This sample included 196 (63.2%) men and 114 (36.8%) women. Most participants were either 30 to 34 years old (29.0%), 25 to 29 years old (23.9%), or 35 to 39 years old (17.7%). Most participants identified as White (61.2%) or Asian (26.8%). Few participants identified as African American (5.2%), American Indian (3.2%), Hispanic or Latinx (2.3%), or Pacific Islander (0.6%). Most participants completed bachelor's degrees (63.9%) or master's degrees (15.8%), identified as married (78.7%), and indicated they engaged in a religion or spiritual practice (80.0%). Most participants identified their father/step-father (36.1%), husband/fiancé (28.1%), or brother/step-brother (22.9%) as the family member afflicted by AUD. Last, most participants indicated no Al-Anon involvement (44.2%); other participants indicated involvement in less than six Al-Anon meetings (32.3%) or more than six Al-Anon meetings (23.5%).

**Instrument Statistics**

Next, descriptive statistics were reviewed prior to analyses for all instruments used in this study. One to two data responses were missing for the Likert-type variables of psychological inflexibility ($n = 309$), ambiguity tolerance ($n = 308$), and distress ($n = 309$); boundary ambiguity and psychological flexibility had complete data responses ($N = 310$). Cases were excluded pairwise in analyses: “excludes case (person) only if they are missing data required for the specific analysis” (Pallant, 2010, p. 57).
First, total scores on the Boundary Ambiguity Scale # 6 (N = 310) ranged from 14 to 56 with a mean of 41.17 (SD = 8.42), a median of 43, and a mode of 48. The Boundary Ambiguity’s Cronbach’s alpha reliability scores were excellent at .89. Second, total scores on the Multidimensional Psychological Flexibility Inventory-24 for psychological flexibility specifically (n = 310) ranged from 12 to 72 with a mean of 45.35 (SD = 11.52), a median of 46, and mode of 45. Total scores on the Multidimensional Psychological Flexibility Inventory-24 for psychological inflexibility specifically (n = 309) ranged from 12 to 72 with a mean of 40.17 (SD = 12.94), a median of 39, and a mode of 34. The Multidimensional Psychological Flexibility Inventory-24’s Cronbach’s alpha reliability scores were excellent at .92. Third, total scores on the Multiple Stimulus Types Ambiguity Tolerance Scale–II (MSTAT-II; n = 308) ranged from 16 to 65 with a mean of 41.44 (SD = 7.06), a median of 43, and a mode of 44. The MSTAT-II’s Cronbach’s alpha reliability scores were excellent at .94. Fourth, total scores on the Kessler Psychological Distress Scale (n = 309) ranged from 10 to 50 with a mean of 29.44 (SD = 9.96), a median of 31, and a mode of 34. The Kessler Psychological Distress Scale’s Cronbach’s alpha reliability scores were between good and excellent at .75. Thus, Cronbach’s alpha reliability scores were excellent (i.e., between .75 to 1.00) for three out of four instruments in this study (Fleiss, 1971).
ANOVA Assumptions Check

To check the assumption of normality for continuous variables, the normal Q-Q plots, histograms, and box plots of the continuous variables were visually reviewed. Next, scores of skewness to assess the symmetry of data and kurtosis to assess the peakedness or flatness of data were reviewed (Pallant, 2010). The further the skewness and kurtosis scores are from zero, the more likely the data are non-normal (Field, 2018; Pallant, 2010). The skewness and kurtosis scores were divided by their standard error scores to compute standardized z-skew and z-kurtosis scores, in which results that were more extreme than ±2.58 indicated significance (Field, 2018).

For boundary ambiguity, there was a significant negative skew (skew = -.82; SE = .13; z-skew = -5.39) and nonsignificant positive kurtosis, indicating peaked distribution (kurtosis: .37; SE = .27; z-kurtosis = 1.36). For psychological flexibility, there was nonsignificant negative skew (skew: -.20; SE = .13; z-skew = -1.44) and nonsignificant negative kurtosis indicating flat distribution (kurtosis: -.02; SE = .27; z-kurtosis = -.08). For psychological inflexibility, there was nonsignificant positive skew (skew: .20; SE = .13; z-skew = 1.44) and there was nonsignificant negative kurtosis indicating flat distribution (kurtosis: -.47; SE = .27; z-kurtosis = -1.70). For ambiguity tolerance, there was significant negative skew (skew: -.58; SE = .13; z-skew = -4.20) and significant positive kurtosis, indicating peaked distribution (kurtosis: 1.93; SE = .27; z-kurtosis = 6.96). For distress, there was nonsignificant negative skew (skew: -.18; SE = .13; z-skew = -1.30) and significant negative kurtosis, indicating flat distribution (kurtosis: -.80; SE = .27; z-kurtosis = -2.87).
Further, Kolmogorov-Smirnov tests of normality, although typically not needed for large samples, were conducted for continuous variables, in which nonsignificant results \((p > .05)\) indicated normality: boundary ambiguity \((p < .00)\), psychological flexibility \((p < .07)\), psychological inflexibility \((p < .00)\), ambiguity tolerance \((p < .00)\), and distress \((p < .00)\). Four of the five continuous variables were significant (i.e., all variables except psychological flexibility), which indicated four failed and one passed Kolmogorov-Smirnov tests of normality. Yet in sample sizes larger than 200 participants, the dependent variables are assumed to be normally distributed due to the central limit theorem (Field, 2018; Pallant, 2010). Thus, no variables were transformed in this data set. Next, the means and standard deviations were inspected for all continuous variables: boundary ambiguity \((M = 41.17, SD = 8.42)\), psychological flexibility \((M = 45.35, SD = 11.52)\), psychological inflexibility \((M = 40.17, SD = 12.94)\), ambiguity tolerance \((M = 41.44, SD = 7.06)\), and distress \((M = 29.44, SD = 9.96)\). There were identified outliers, but all original data scores were kept in the analyses to limit biasing of results and altering the natural structure due to the removal of data points (Field, 2018).

**Between-Subjects Test Results and Considerations**

Five separate one-way between-subjects analyses of variance (ANOVAs) were conducted with an alpha of .05 to answer the first research question: Are there differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon? The null
hypothesis indicated no significant differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, or ambiguity tolerance among non-involved, newcomers, and members of Al-Anon. The alternative hypothesis indicated significant differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon.

Al-Anon involvement had three levels: non-involved \((n = 137)\), newcomers \((n = 100)\), and members \((n = 73)\). The means and standard deviations were reviewed for boundary ambiguity, psychological flexibility, psychological inflexibility, distress, and ambiguity tolerance within each Al-Anon involvement group (Table 2).

<table>
<thead>
<tr>
<th>Al-Anon Involvement</th>
<th>BA M(SD)</th>
<th>PF M(SD)</th>
<th>PI M(SD)</th>
<th>AT M(SD)</th>
<th>D M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>40.27(9.68)</td>
<td>44.85(13.47)</td>
<td>39.92(14.23)</td>
<td>41.16(8.27)</td>
<td>29.68(11.28)</td>
</tr>
<tr>
<td>Newcomer</td>
<td>42.57(6.36)</td>
<td>45.36(10.77)</td>
<td>40.47(12.52)</td>
<td>41.57(5.81)</td>
<td>28.78(8.84)</td>
</tr>
<tr>
<td>Member</td>
<td>40.94(8.21)</td>
<td>46.28(8.13)</td>
<td>40.24(10.98)</td>
<td>41.79(6.23)</td>
<td>29.89(8.79)</td>
</tr>
</tbody>
</table>
ANOVA assumptions included independence, normality, linearity, and homogeneity of variance (Field, 2018). The assumption of independence was met since each participant endorsed one distinct Al-Anon involvement group. To test the assumption of normality within Al-Anon involvement groups, the Normal Q-Q plots, histograms, and box plots of the five continuous variables were visually reviewed. Next, scores of skewness and kurtosis of data matched the review of visual data. For the non-involved Al-Anon group, skewness and kurtosis scores were as follows: boundary ambiguity had significant negative skew (skew = -0.66; SE = 0.20; z-skew = -3.19) and minimal negative kurtosis (kurtosis = -0.11; SE = 0.41; z-kurtosis = -0.27); psychological flexibility had minimal negative skew (skew = -0.23; SE = 0.20; z-skew = -1.15) and minimal negative kurtosis (kurtosis = -0.36; SE = 0.41; z-kurtosis = -0.88); psychological inflexibility had positive skew (skew = 0.36; SE = 0.20; z-skew = 1.74) and negative kurtosis (kurtosis = -0.66; SE = 0.41; z-kurtosis = -1.60); ambiguity tolerance had significant negative skew (skew = -0.63; SE = 0.20; z-skew = -3.04) and significant positive kurtosis (kurtosis = 1.09; SE = 0.41; z-kurtosis = 2.64); and distress had negative skew (skew = -0.002; SE = 0.20; z-skew = -0.01) and significantly negative kurtosis (kurtosis = -1.08; SE = 0.41; z-kurtosis = -2.63).

For the Al-Anon newcomer group, skewness and kurtosis scores included the following: boundary ambiguity had significant negative skew (skew = -0.77; SE = 0.24; z-skew = -3.21) and minimal positive kurtosis (kurtosis = 0.36; SE = 0.47; z-kurtosis = 0.75); psychological flexibility had minimal positive skew (skew = 0.14; SE = 0.24; z-skew = 0.60) and minimal negative kurtosis (kurtosis = -0.30; SE = 0.47; z-kurtosis = -0.63); psychological inflexibility had minimal negative skew (skew = -0.002; SE = 0.24; z-skew = -0.008) and minimal negative kurtosis (kurtosis = -0.22; SE = 0.47; z-kurtosis = -0.47); ambiguity tolerance had minimal negative skew (skew = -0.45; SE =
.24; z-skew = -1.88) and significant positive kurtosis (kurtosis = 4.69; SE = .47; z-kurtosis = 9.82); and distress had negative skew (skew = -.56; SE = .24; z-skew = -2.30) and minimal negative kurtosis (kurtosis = -.57; SE = .48; z-kurtosis = -1.19). For the Al-Anon member group, skewness and kurtosis scores included the following: boundary ambiguity had significant negative skew (skew = -.80; SE = .28; z-skew = -2.86) and minimal positive kurtosis (kurtosis = .04; SE = .55; z-kurtosis = .82); psychological flexibility had minimal negative skew (skew = -.26; SE = .28; z-skew = -.94) and minimal negative kurtosis (kurtosis = -.62; SE = .55; z-kurtosis = -1.12); psychological inflexibility had minimal positive skew (skew = .04; SE = .28; z-skew = .14) and minimal negative kurtosis (kurtosis = -.54; SE = .55; z-kurtosis = -.98); ambiguity tolerance had minimal negative skew (skew = -.14; SE = .28; z-skew = -.51) and minimal positive kurtosis (kurtosis = .19; SE = .55; z-kurtosis = .35); and distress had minimal negative skew (skew = -.49; SE = .28; z-skew = -1.76) and minimal negative kurtosis (kurtosis = -.67; SE = .55; z-kurtosis = -1.21).

In addition, Kolmogorov-Smirnov tests of normality were conducted for continuous variables within each Al-Anon group and nonsignificant results ($p > .05$) indicated normality: non-involved Al-Anon group and boundary ambiguity ($p < .00$), psychological flexibility ($p < .20$), psychological inflexibility ($p < .00$), ambiguity tolerance ($p < .00$), and distress ($p < .04$); Al-Anon newcomer group and boundary ambiguity ($p < .01$), psychological flexibility ($p < .20$), psychological inflexibility ($p < .20$), ambiguity tolerance ($p < .01$), and distress ($p < .00$); and Al-Anon member group and boundary ambiguity ($p < .00$), psychological flexibility ($p < .20$), psychological inflexibility ($p < .20$), ambiguity tolerance ($p < .01$), and distress ($p < .00$). Thus, visual review of the data, skew and kurtosis scores, and Kolmogorov-Smirnov tests indicated
violations in normality assumption, yet data presented here was mixed, although due to the robust sample size and central limit theorem, the data can still be assumed to be normal (Field, 2018).

Next, to check ANOVA assumptions of linearity and homoscedasticity, I completed Levine’s test of homogeneity of variances and performed visual inspections of residual graphs (Field, 2018). That is, “if linearity and homoscedasticity hold true there should be no systematic relationship between the errors in the model and what the model predicts” (Field, 2018, p. 193). There was a nonbalanced design in the sample sizes of each Al-Anon involvement group. Levine’s test indicated significance for all variables. Thus, unequal variances were assumed. The variance ratio (i.e., largest variance squared/smallest variance squared) was calculated to confirm Levine’s test results, especially since large sample sizes were vulnerable to failing Levine’s test (Field, 2018). If the variance ratio is greater than 2, heterogeneity of variance can be confirmed. The calculated variance ratio indicated the ANOVA assumption of equal variances was indeed violated \( VR = \frac{14.23^2}{5.81^2} = 5.99 \). Thus, the different Al-Anon involvement groups had unequal sample sizes and unequal variances. The ANOVA assumptions of independence and normality were met. Although the homogeneity of variance assumption was violated, the sample size of 310 was robust enough to perform the one-way between-subjects ANOVA for this sample (Field, 2018; Pallant, 2010).

The following ANOVA tests were performed with an alpha significance level of .05 among all Al-Anon groups, including non-involved \( (n = 137) \), newcomers \( (n = 100) \), and members \( (n = 73) \) on scores of boundary ambiguity, psychological flexibility, psychological inflexibly, ambiguity tolerance, and distress. First, there was a statistically nonsignificant
difference in boundary ambiguity scores across all three Al-Anon groups, \( F = (2, 307) = 2.205, p < .11 \). Mean ranks revealed the highest boundary ambiguity scores among Al-Anon newcomers \((M = 42.57)\), then Al-Anon members \((M = 40.94)\), and last non-involved participants \((M = 40.27)\). Second, there was a statistically nonsignificant difference in psychological flexibility scores across all three Al-Anon groups, \( F = (2, 307) = .367, p < .693 \). Mean ranks revealed the highest psychological flexibility scores among Al-Anon members \((M = 46.28)\), then Al-Anon newcomers \((M = 45.36)\), and last non-involved participants \((M = 44.85)\). Third, there was a statistically nonsignificant difference in psychological inflexibility scores across all three Al-Anon groups, \( F = (2, 307) = .052, p < .949 \). Mean ranks revealed the highest psychological inflexibility scores among Al-Anon newcomers \((M = 40.47)\), then Al-Anon members \((M = 40.24)\), and last non-involved participants \((M = 39.92)\). Fourth, there was a statistically nonsignificant difference in ambiguity tolerance scores across all three Al-Anon groups, \( F = (2, 307) = .211, p < .810 \). Mean ranks revealed the highest ambiguity tolerance scores among Al-Anon members \((M = 41.79)\), then Al-Anon newcomers \((M = 41.57)\), and last non-involved participants \((M = 41.16)\). Fifth, there was a statistically nonsignificant difference in distress scores across all three Al-Anon groups, \( F = (2, 307) = .327, p < .722 \). Mean ranks revealed the highest distress scores among Al-Anon members \((M = 29.89)\), then non-involved participants \((M = 29.68)\), and last Al-Anon newcomers \((N = 28.78)\). Since there were no statistically significant scores revealed from the ANOVA tests, pairwise comparison calculations were unnecessary to compute.
Multiple Linear Regression and Moderation Results

A standard multiple linear regression analysis was conducted to answer the second research question: To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict distress outcomes? Next, Al-Anon involvement was investigated as a moderator in the distress regression model. Another standard multiple linear regression analysis was conducted to answer the third research question: To what extent do AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predict ambiguity tolerance outcomes? Last, Al-Anon involvement was investigated as a moderator in the ambiguity tolerance regression model as well. Multiple linear regression assumption checks are evaluated in the following section to corroborate the need for regression analyses for this study.

Multiple Linear Regression Model Assumptions

The multiple regression model assumptions were checked for outliers, normality, linearity, homoscedasticity, and independence of residuals for both distress and ambiguity tolerance outcomes (Pallant, 2010). First, four outliers were flagged for distress outcomes and three outliers were flagged for ambiguity tolerance outcomes. For both distress and ambiguity tolerance outcomes, no variance inflation factor (VIF) values exceeded 10.0 and tolerance values were less than .10 indicating no problems with multicollinearity (Field, 2018); yet there was a
concern in which one condition index exceeded 15. To confirm that multicollinearity problems were not present, correlations among predictors were inspected and there were no correlations more extreme than $r = \pm .90$. Therefore, excessive multicollinearity did not appear to be a problem in this study. Further, an inspection of residuals appeared to have a close to normal distribution for both distress and ambiguity tolerance outcomes. In addition, standardized residual values were inspected for distress (-2.327, 5.630) and ambiguity tolerance (-4.886, 3.460), in which some values were more extreme than $\pm 3.0$, confirming the presence of outliers. Yet there appeared to be a linear relationship between predictors and outcomes upon review of distress and ambiguity tolerance scatterplots. Thus, the homoscedasticity (i.e., equality of variance) assumption appeared to be met upon inspection of scatterplots for both distress and ambiguity tolerance outcomes. All the following multiple linear regression results were reported with adjusted $R^2$ for a conservative estimate of predicted variance for each model. Further, correlational statistics between study variables were identified and evaluated.

**Multiple Linear Regression Distress Results**

The null hypothesis indicated AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would not predict distress outcomes. The alternative hypothesis indicated AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would predict distress outcomes.
For all AFMs, psychological flexibility, psychological inflexibility, and boundary ambiguity together explained 61.2% of the total variance in distress outcomes ($R^2 = .612$, $F(3, 304) = 162.114, p < .000$). Thus, this study’s results corroborated the alternative hypothesis: AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predicted distress outcomes. Then each predictor in the model was evaluated separately with attention to unstandardized coefficients (i.e., to describe slope), t-scores, and significant results. First, psychological flexibility significantly predicted distress ($b = -.145, t(304) = -4.179, p < .000$). For every 1 unit of psychological flexibility, distress decreased by .145. The standardized coefficient for psychological flexibility ($\beta = -.167$) had a negative relationship with distress and was a statistically significant predictor. That is, as psychological flexibility increased by 1 standard deviation ($SD_{PF} = 11.526$), distress decreased by 1.665 ($\beta \times SD_D = .167 \times 9.969 = 1.665$). Next, psychological inflexibility significantly predicted distress ($b = .443, t(304) = 11.582, p < .000$). For every 1 unit of psychological inflexibility, distress increased by .443. The standardized coefficient for psychological inflexibility ($\beta = .575$) had a positive relationship with distress and was a statistically significant predictor. That is, as psychological inflexibility increased by 1 standard deviation ($SD_{PI} = 12.940$), distress increased by 5.572 ($\beta \times SD_D = .575 \times 9.969 = 5.572$). Last, boundary ambiguity significantly predicted distress ($b = .397, t(304) = 7.362, p < .000$). For every 1 unit of boundary ambiguity, distress increased by .397. The standardized coefficient for boundary ambiguity ($\beta = .335$) had a positive relationship with distress and was a statistically significant predictor. That is, as boundary ambiguity increased by 1 standard deviation ($SD_{BA} = 8.425$), distress increased by 3.339 ($\beta \times SD_D = .335 \times 9.969 = 3.339$). Thus, the multiple linear regression equation for AFMs’ distress is as follows:
Ŷ(Predicted Distress) = β0 + β1(Psychological Flexibility) + β2(Psychological Inflexibility) + β3(Boundary Ambiguity) + ε, or Ŷ = 1.889 - .145x1 + .443x2 + .397x3 + ε.

The Pratt index was calculated by multiplying the standardized regression coefficients and zero-order Pearson correlations divided by the total $R^2$ of .615 (i.e., .615 is the non-adjusted $R^2$ value) to determine the importance of each predictor and how strong the effect of each predictor was relative to the others in the model (Liu et al., 2014). The Pratt index scores for AFMs’ distress were as follows: -.023 for psychological flexibility (i.e., -.167 x .083 / .615 = -.023), .660 for psychological inflexibility (i.e., .575 x .706 / .615 = .660), and .363 for boundary ambiguity (i.e., .335 x .666 / .615 = .363). Therefore, this model revealed psychological inflexibility was the most important predictor of AFMs’ distress, followed by boundary ambiguity, and last psychological inflexibility (Table 3).

**Distress and Al-Anon Involvement Moderation**

The null hypothesis indicated the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes would not be moderated by Al-Anon involvement (no involvement, newcomer, member). The alternative hypothesis indicated the relationship between psychological flexibility, psychological inflexibility, boundary
Table 3
Distress Multiple Linear Regression Model

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficient $b$</th>
<th>SE</th>
<th>Standardized Beta $\beta$</th>
<th>t</th>
<th>p</th>
<th>CI [LL]</th>
<th>CI [UL]</th>
<th>$r_{zero}$</th>
<th>$r_{partial}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.889</td>
<td>2.263</td>
<td></td>
<td>.835</td>
<td>.404</td>
<td>-2.56</td>
<td>6.343</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Flexibility</td>
<td>-.145</td>
<td>.035</td>
<td>-.167</td>
<td>-4.179</td>
<td>.000</td>
<td>-.213</td>
<td>-.077</td>
<td>.083</td>
<td>-.233</td>
</tr>
<tr>
<td>Psychological Inflexibility</td>
<td>.443</td>
<td>.038</td>
<td>.575</td>
<td>11.582</td>
<td>.000</td>
<td>.368</td>
<td>.518</td>
<td>.706</td>
<td>.553</td>
</tr>
<tr>
<td>Boundary Ambiguity</td>
<td>.397</td>
<td>.054</td>
<td>.335</td>
<td>7.362</td>
<td>.000</td>
<td>.291</td>
<td>.503</td>
<td>.666</td>
<td>.389</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
ambiguity, and distress outcomes would be moderated by Al-Anon involvement (no involvement, newcomer, member).

An interaction variable between Al-Anon involvement and each predictor variable was created to test moderation for distress outcomes in a subsequent multiple regression analysis. The interaction of Al-Anon involvement with each predictor variable (i.e., psychological flexibility, psychological inflexibility, boundary ambiguity) accounted for 61.0% of the variance in distress and this result was statistically significant ($R^2 = .610$, $F(6, 301) = 81.116, p < .000$). All Al-Anon interactions with each separate predictor variable were nonsignificant for distress outcomes and therefore the null hypothesis was retained. The following is a summary of unstandardized coefficients, t-scores, and significant results for this interaction model (Table 4).

First, the interaction or change in the relationship of psychological flexibility and distress was considered between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and psychological flexibility did not predict distress, controlling for all other variables ($b = -.009$, $t(301) = -.255, p < .799$). The standardized coefficient for Al-Anon involvement and psychological flexibility ($\beta = -.037$) had a negative relationship with distress and was not a statistically significant predictor. As Al-Anon involvement and psychological flexibility increased by 1 standard deviation ($SD_{APF} = 42.044$), distress decreased by $.369 (\beta x SD_D = .037 x 9.969 = .369$). Second, the interaction or change in the relationship of psychological inflexibility and distress was considered between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and psychological inflexibility did not predict distress, controlling for all other variables ($b = -.055$, $t(301) = -1.176, p < .241$).
Table 4

Al-Anon Involvement Moderation for Distress

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficient $b$</th>
<th>SE</th>
<th>Standardized Beta $\beta$</th>
<th>t</th>
<th>p</th>
<th>CI [LL]</th>
<th>CI [UL]</th>
<th>partial $r$</th>
<th>zero $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.088</td>
<td>2.278</td>
<td>.91</td>
<td>.360</td>
<td>-.2.4</td>
<td>6.570</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al-Anon and Psychological Flexibility</td>
<td>-.009</td>
<td>.034</td>
<td>-.037</td>
<td>-.25</td>
<td>.799</td>
<td>.059</td>
<td>.025</td>
<td>-.015</td>
<td>.009</td>
</tr>
<tr>
<td>Al-Anon and Psychological Inflexibility</td>
<td>-.055</td>
<td>.047</td>
<td>-.219</td>
<td>-1.2</td>
<td>.241</td>
<td>.037</td>
<td>.370</td>
<td>-.068</td>
<td>-.042</td>
</tr>
<tr>
<td>Al-Anon and Boundary Ambiguity</td>
<td>.059</td>
<td>.050</td>
<td>.215</td>
<td>1.16</td>
<td>.244</td>
<td>.157</td>
<td>.250</td>
<td>.067</td>
<td>.042</td>
</tr>
<tr>
<td>Psychological Flexibility</td>
<td>-.135</td>
<td>.064</td>
<td>-.156</td>
<td>-2.1</td>
<td>.037</td>
<td>.26</td>
<td>.008</td>
<td>.083</td>
<td>-.120</td>
</tr>
<tr>
<td>Psychological Inflexibility</td>
<td>.535</td>
<td>.088</td>
<td>.695</td>
<td>6.06</td>
<td>.000</td>
<td>.36</td>
<td>.709</td>
<td>.330</td>
<td>.216</td>
</tr>
<tr>
<td>Boundary Ambiguity</td>
<td>.299</td>
<td>.101</td>
<td>.253</td>
<td>2.97</td>
<td>.003</td>
<td>.10</td>
<td>.497</td>
<td>.666</td>
<td>.169</td>
</tr>
</tbody>
</table>

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The standardized coefficient for Al-Anon involvement and psychological inflexibility ($\beta = -.219$) had a negative relationship with distress and was not a statistically significant predictor. As Al-Anon involvement and psychological inflexibility increased by 1 standard deviation ($SD_{API} = 39.844$), distress decreased by 2.183 ($\beta \times SD = .219 \times 9.969 = 2.183$). Third, the interaction or change in the relationship of boundary ambiguity and distress was considered, between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and boundary ambiguity did not predict distress, controlling for all other variables ($b = .059, t(301) = 1.168, p < .244$). The standardized coefficient for Al-Anon involvement and boundary ambiguity ($\beta = .215$) had a positive relationship with distress and was not a statistically significant predictor. As Al-Anon involvement and boundary ambiguity increased by one standard deviation ($SD_{ABA} = 36.641$), distress increased by 2.143 ($\beta \times SD = .215 \times 9.969 = 2.143$). Hence, the relationships between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes were not moderated by Al-Anon involvement (non-involved participants, newcomer, member) due to the above nonsignificant interactions.

Next, single predictor variables were considered in this model with significant results. First, psychological flexibility significantly predicted distress ($b = -.135, t(301) = -2.099, p < .037$). That is, for every 1 unit of psychological flexibility, distress decreased by .135 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for psychological flexibility ($\beta = -.156$) had a negative relationship with distress and was a statistically significant predictor. As psychological flexibility increased by 1 standard deviation ($SD_{PF} = 11.526$), distress decreased by 1.555 ($\beta \times SD = .156 \times 9.969 = 1.555$). Next,
psychological inflexibility significantly predicted distress \((b = .535, t(301) = 6.061, p < .000)\).
That is, for every 1 unit of psychological inflexibility, distress increased by .535 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for psychological inflexibility \((\beta = .695)\) had a positive relationship with distress and was a statistically significant predictor. As psychological inflexibility increased by one standard deviation \((SD_{PI} = 12.940)\), distress decreased by 6.928 \((\beta x SD_{D} = .695 x 9.969 = 6.928)\). Last, boundary ambiguity significantly predicted distress \((b = .299, t(301) = 2.976, p < .003)\). That is, for every 1 unit of boundary ambiguity, distress increased by .299 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for boundary ambiguity \((\beta = .253)\) had a positive relationship with distress and was a statistically significant predictor. As boundary ambiguity increased by 1 standard deviation \((SD_{BA} = 8.425)\), distress decreased by 2.522 \((\beta x SD_{D} = .253 x 9.969 = 2.522)\). Given the previous results, the multiple linear regression equation for this model is as follows: 

\[
\hat{Y} = \beta_0 + \beta_1(Al\text{-}Anon \text{ and Psychological Flexibility}) + \beta_2(Al\text{-}Anon \text{ and Psychological Inflexibility}) + \beta_3(Al\text{-}Anon \text{ and Boundary Ambiguity}) + \beta_4(\text{Psychological Flexibility}) + \beta_5(\text{Psychological Inflexibility}) + \beta_6(\text{Boundary Ambiguity}) + \epsilon,
\]

or \[
\hat{Y} = 2.088 + -.009x1 + -.055x2 + .059x3 + -.135x4 + .535 x5 + .299x6 + \epsilon.
\]

Last, Pratt index calculations were evaluated to indicate the order of predictor importance in the model with \(R^2\) of .618 (i.e., .618 is the non-adjusted \(R^2\) value). The first most important predictor was psychological inflexibility \((.695 x .706 / .618 = .794)\); second predictor was boundary ambiguity \((.253 x .666 / .618 = .273)\); third predictor was Al-Anon involvement and psychological inflexibility interaction \((- .219 x .370 / .618 = -.131)\); fourth predictor was Al-Anon
involvement and boundary ambiguity interaction (.215 x .250 / .618 = .087); fifth predictor was psychological flexibility (-.156 x .083 / .618 = -.021); and last predictor was Al-Anon involvement and psychological flexibility (-.037 x .025 / .618 = -.001).

Multiple Linear Regression Ambiguity Tolerance Results

The null hypothesis indicated AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would not predict ambiguity tolerance outcomes. The alternative hypothesis indicated AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would predict ambiguity tolerance outcomes. Psychological flexibility, psychological inflexibility, and boundary ambiguity together explained 24.1% of the total variance in ambiguity tolerance outcomes ($R^2 = .241, F(3, 303) = 33.467, p < .000$). Thus, this study’s results corroborated the alternative hypothesis: AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity predicted ambiguity tolerance outcomes (Table 5).

Then each predictor in the model was evaluated separately to identify unstandardized coefficients, t-scores, and significant results. First, psychological flexibility significantly predicted ambiguity tolerance ($b = -.117, t(303) = -3.413, p < .001$). For every 1 unit of psychological flexibility, ambiguity tolerance decreased by .117. The standardized coefficient for psychological flexibility ($\beta = -.191$) had a negative relationship with ambiguity tolerance and was a statistically significant predictor. As psychological flexibility increased by 1 standard
deviation ($SD_{PF} = 11.526$), ambiguity tolerance decreased by 1.350 ($\beta \times SD_{AT} = .191 \times 7.069 = 1.350$).

Table 5

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficient ($b$)</th>
<th>SE</th>
<th>Standardized Beta ($\beta$)</th>
<th>t</th>
<th>p</th>
<th>CI [LL]</th>
<th>CI [UL]</th>
<th>$r_{0}$</th>
<th>$r_{p}$</th>
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<td>Constant</td>
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<td>14.039</td>
<td>.00</td>
<td>27.11</td>
<td>35.953</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Flexibility</td>
<td>- .177</td>
<td>.034</td>
<td>- .191</td>
<td>-3.413</td>
<td>.00</td>
<td>- .185</td>
<td>- .050</td>
<td>- .026</td>
<td>- .192</td>
</tr>
<tr>
<td>Psychological Inflexibility</td>
<td>.209</td>
<td>.038</td>
<td>.383</td>
<td>5.517</td>
<td>.00</td>
<td>.135</td>
<td>.284</td>
<td>.424</td>
<td>.302</td>
</tr>
<tr>
<td>Boundary Ambiguity</td>
<td>.166</td>
<td>.053</td>
<td>.197</td>
<td>3.098</td>
<td>.00</td>
<td>.060</td>
<td>.271</td>
<td>.413</td>
<td>.175</td>
</tr>
</tbody>
</table>

Next, psychological inflexibility significantly predicted ambiguity tolerance ($b = .209$, $t(303) = 5.517$, $p < .000$). For every 1 unit of psychological inflexibility, ambiguity tolerance increased by .209. The standardized coefficient for psychological inflexibility ($\beta = .383$) had a
positive relationship with ambiguity tolerance and was a statistically significant predictor. As psychological inflexibility increased by 1 standard deviation ($SD_{PI} = 12.940$), ambiguity tolerance increased by 2.707 ($\beta \times SD_{AT} = .383 \times 7.069 = 2.707$). Last, boundary ambiguity significantly predicted ambiguity tolerance ($b = .166$, $t(303) = 3.098$, $p < .000$). For every 1 unit of boundary ambiguity, ambiguity tolerance increased by .166. The standardized coefficient for boundary ambiguity ($\beta = .197$) had a positive relationship with ambiguity tolerance and was a statistically significant predictor. As boundary ambiguity increased by 1 standard deviation ($SD_{BA} = 8.425$), ambiguity tolerance increased by 1.393 ($\beta \times SD_{AT} = .197 \times 7.069 = 1.393$). Thus, the multiple linear regression equation for AFMs’ ambiguity tolerance is as follows: $\hat{Y}$ (Predicted Ambiguity Tolerance) = $\beta_0 + \beta_1$(Psychological Flexibility) + $\beta_2$(Psychological Inflexibility) + $\beta_3$(Boundary Ambiguity) + $\epsilon$, or $\hat{Y} = 31.533 + -.117x1 + .209x2 + .166x3 + \epsilon$.

The Pratt index scores were calculated with $R^2$ of .249 (i.e., .249 is the non-adjusted $R^2$ value) to determine the importance of each predictor and how strong the effect of each predictor was relative to the others in the model (Liu et al., 2014). The Pratt index scores for AFMs’ ambiguity tolerance were as follows: .020 for psychological flexibility (i.e., -.191 x -.026 / .249 = .020); .652 for psychological inflexibility (i.e., .383 x .424 / .249 = .652), and .327 for boundary ambiguity (i.e., .197 x .413 / .249 = .327). Therefore, this model revealed psychological inflexibility was the most important predictor of AFMs’ ambiguity tolerance, followed by boundary ambiguity, and last psychological inflexibility.
Ambiguity Tolerance and Al-Anon Involvement Moderation

The null hypothesis indicated the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes would not be moderated by Al-Anon involvement (no involvement, newcomer, member). The alternative hypothesis indicated the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes would be moderated by Al-Anon involvement (no involvement, newcomer, member).

An interaction variable between Al-Anon involvement and each predictor variable was created to test moderation for ambiguity tolerance outcomes in a subsequent multiple regression analysis. The interaction of Al-Anon involvement with this set of predictors (i.e., psychological flexibility, psychological inflexibility, boundary ambiguity) accounted for 23.6% of the variance in ambiguity tolerance, and this test was statistically significant ($R^2 = .236, F(6, 300) = 16.746, p < .000$), yet all Al-Anon interactions with each separate predictor variable were nonsignificant for ambiguity tolerance outcomes and the null hypothesis was retained. The following is a summary of unstandardized coefficients, t-scores, and significant results for this interaction model (Table 6). First, the interaction or change in the relationship of psychological flexibility and ambiguity tolerance was considered between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and psychological flexibility did not predict ambiguity tolerance controlling for all other variables ($b = .009, t(300) = .273, p < .785$). The standardized coefficient for Al-Anon involvement and psychological flexibility ($\beta = .055$) had a positive relationship with ambiguity tolerance and was not a
statistically significant predictor. As Al-Anon involvement and psychological flexibility increased by 1 standard deviation ($SD_{APF} = 42.044$), ambiguity tolerance increased by .389 ($\beta \times SD_{AT} = .055 \times 7.069 = .389$). Second, the interaction or change in the relationship of psychological inflexibility and ambiguity tolerance was considered, between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and psychological inflexibility did not predict ambiguity tolerance, controlling for all other variables ($b = -.023, t(300) = -.489, p < .625$). The standardized coefficient for Al-Anon involvement and psychological inflexibility ($\beta = -.128$) had a negative relationship with ambiguity tolerance and was not a statistically significant predictor. As Al-Anon involvement and psychological inflexibility increased by 1 standard deviation ($SD_{API} = 39.844$), ambiguity tolerance decreased by .905 ($\beta \times SD_{AT} = -.128 \times 7.069 = .905$). Third, the interaction or change in the relationship of boundary ambiguity and ambiguity tolerance was considered between non-involved participants, Al-Anon newcomers, and Al-Anon members. The interaction of Al-Anon involvement and boundary ambiguity did not predict ambiguity tolerance, controlling for all other variables ($b = .020, t(300) = .402, p < .688$). The standardized coefficient for Al-Anon involvement and boundary ambiguity ($\beta = .104$) had a positive relationship with ambiguity tolerance and was not a statistically significant predictor. As Al-Anon involvement and boundary ambiguity increased by 1 standard deviation ($SD_{ABA} = 36.641$), ambiguity tolerance increased by .735 ($\beta \times SD_{AT} = .104 \times 7.069 = .735$). Therefore, the relationships between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes were not moderated by Al-Anon involvement (non-involved participants, newcomer, member) due to the above nonsignificant interactions (Table 6).
Next, single predictor variables were considered in this model with significant results except for boundary ambiguity. Psychological flexibility significantly predicted ambiguity tolerance \( (b = -0.135, t(300) = -2.110, p < .036) \). That is, for every 1 unit of psychological flexibility, ambiguity tolerance decreased by .135 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for psychological flexibility \( (\beta = -0.220) \) had a negative relationship with ambiguity tolerance and was a significant predictor.

As psychological flexibility increased by 1 standard deviation (SDPF = 11.526), ambiguity tolerance decreased by 1.555 \( (\beta \times \text{SDAT} = 0.220 \times 7.069 = 1.555) \). Next, psychological inflexibility significantly predicted ambiguity tolerance \( (b = 0.250, t(300) = 2.842, p < .005) \). That is, for every 1 unit of psychological inflexibility, distress increased by .250 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for psychological inflexibility \( (\beta = 0.457) \) had a positive relationship with ambiguity tolerance and was a statistically significant predictor. As psychological inflexibility increased by 1 standard deviation (SDPI = 12.940), ambiguity tolerance increased by 3.230 \( (\beta \times \text{SDAT} = 0.457 \times 7.069 = 3.230) \). Last, boundary ambiguity did not predict ambiguity tolerance \( (b = 0.129, t(300) = 1.288, p < .199) \). For every 1 unit of boundary ambiguity, ambiguity tolerance increased by .129 between non-involved participants, Al-Anon newcomers, and Al-Anon members. The standardized coefficient for boundary ambiguity \( (\beta = 0.153) \) had a positive relationship with ambiguity tolerance and was not a statistically significant predictor. As psychological inflexibility increased by 1 standard deviation (SDBA = 8.425), ambiguity tolerance increased by 1.082 \( (\beta \times \text{SDAT} = 0.153 \times 7.069 = 1.082) \). Given the previous results, the multiple linear regression equation for
Table 6
Al-Anon Involvement Moderation for Ambiguity Tolerance

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficient $b$</th>
<th>SE</th>
<th>Standardized Beta $\beta$</th>
<th>t</th>
<th>p</th>
<th>CI [LL]</th>
<th>CI [UL]</th>
<th>$r_{zero}$</th>
<th>$r_{partial}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>31.634</td>
<td>2.265</td>
<td></td>
<td>13.967</td>
<td>.00</td>
<td>27.17</td>
<td>36.091</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al-Anon and Psychological Flexibility</td>
<td>.009</td>
<td>.034</td>
<td>.055</td>
<td>.273</td>
<td>.78</td>
<td>-.058</td>
<td>.076</td>
<td>.024</td>
<td>.016</td>
</tr>
<tr>
<td>Al-Anon and Psychological Inflexibility</td>
<td>-.023</td>
<td>.046</td>
<td>-.128</td>
<td>-.489</td>
<td>.62</td>
<td>-.114</td>
<td>.069</td>
<td>.259</td>
<td>-.028</td>
</tr>
<tr>
<td>Al-Anon and Boundary Ambiguity</td>
<td>.020</td>
<td>.050</td>
<td>.104</td>
<td>.402</td>
<td>.68</td>
<td>-.078</td>
<td>.118</td>
<td>.194</td>
<td>.023</td>
</tr>
<tr>
<td>Psychological Flexibility</td>
<td>-.135</td>
<td>.064</td>
<td>-.220</td>
<td>-2.110</td>
<td>.03</td>
<td>-.261</td>
<td>-.009</td>
<td>-.026</td>
<td>-.121</td>
</tr>
<tr>
<td>Psychological Inflexibility</td>
<td>.250</td>
<td>.088</td>
<td>.457</td>
<td>2.842</td>
<td>.00</td>
<td>.077</td>
<td>.422</td>
<td>.424</td>
<td>.162</td>
</tr>
<tr>
<td>Boundary Ambiguity</td>
<td>.129</td>
<td>.100</td>
<td>.153</td>
<td>1.288</td>
<td>.19</td>
<td>-.068</td>
<td>.325</td>
<td>.413</td>
<td>.074</td>
</tr>
</tbody>
</table>
this model is as follows: \( \hat{Y} \) (Predicted Ambiguity Tolerance) = \( \beta_0 + \beta_1 (\text{Al-Anon and Psychological Flexibility}) + \beta_2 (\text{Al-Anon and Psychological Inflexibility}) + \beta_3 (\text{Al-Anon and Boundary Ambiguity}) + \beta_4 (\text{Psychological Flexibility}) + \beta_5 (\text{Psychological Inflexibility}) + \beta_6 (\text{Boundary Ambiguity}) + \varepsilon \), or \( \hat{Y} = 31.634 + .009x_1 - .023x_2 + .020x_3 - .135x_4 + .250x_5 + .129x_6 + \varepsilon \).

Last, Pratt index scores were calculated with \( R^2 \) of .251 (i.e., .251 is the non-adjusted \( R^2 \) value) and then evaluated to indicate the order of predictor importance in the model. The first most important predictor was psychological inflexibility \(.457 \times .424 / .251 = .772\); second was boundary ambiguity \(.153 \times .413 / .251 = .252\); third was Al-Anon involvement and psychological inflexibility interaction \(-.128 \times .259 / .251 = -.132\); fourth was Al-Anon involvement and boundary ambiguity interaction \(.104 \times .194 / .251 = .080\); fifth was psychological flexibility \(-.220 \times -.026 / .251 = .023\); and last was Al-Anon involvement and psychological flexibility \(.055 \times .024 / .251 = .005\). Further, correlations between all study variables were considered (Table 7).

**Summary**

This chapter restated the study’s purpose, research questions, and method. Convenience sampling with MTurk elicited 310 AFM participants with complete data responses for this study. The reliability scores of all survey measures were excellent, which corroborated chosen surveys
Table 7

Correlation Table

<table>
<thead>
<tr>
<th>Variable</th>
<th>AA x PF</th>
<th>AA x PI</th>
<th>AA x BA</th>
<th>PF</th>
<th>PI</th>
<th>BA</th>
<th>D</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al-Anon and Psychological Flexibility (AA x PF)</td>
<td>1.000</td>
<td>.809*</td>
<td>.813*</td>
<td>.457*</td>
<td>.171*</td>
<td>.065</td>
<td>.025</td>
<td>.024</td>
</tr>
<tr>
<td>Al-Anon and Psychological Inflexibility (AA x PI)</td>
<td>.809*</td>
<td>1.000</td>
<td>.878*</td>
<td>.231*</td>
<td>.542*</td>
<td>.355*</td>
<td>.370*</td>
<td>.259*</td>
</tr>
<tr>
<td>Al-Anon and Boundary Ambiguity (AA x BA)</td>
<td>.813*</td>
<td>.878*</td>
<td>1.000</td>
<td>.060</td>
<td>.230*</td>
<td>.422*</td>
<td>.250*</td>
<td>.194*</td>
</tr>
<tr>
<td>Psychological Flexibility (PF)</td>
<td>.457*</td>
<td>.231*</td>
<td>.060</td>
<td>1.000</td>
<td>.401*</td>
<td>.401*</td>
<td>.083</td>
<td>-0.026</td>
</tr>
<tr>
<td>Psychological Inflexibility (PI)</td>
<td>.171*</td>
<td>.542*</td>
<td>.230*</td>
<td>.401*</td>
<td>1.000</td>
<td>.593*</td>
<td>.706*</td>
<td>.424*</td>
</tr>
<tr>
<td>Boundary Ambiguity (BA)</td>
<td>.065</td>
<td>.355*</td>
<td>.422*</td>
<td>.059</td>
<td>.593*</td>
<td>1.000</td>
<td>.666*</td>
<td>.413*</td>
</tr>
<tr>
<td>Distress (D)</td>
<td>.025</td>
<td>.370*</td>
<td>.250*</td>
<td>.083</td>
<td>.706*</td>
<td>.666*</td>
<td>1.000</td>
<td>.437*</td>
</tr>
<tr>
<td>Ambiguity Tolerance (AT)</td>
<td>.024</td>
<td>.259*</td>
<td>.194*</td>
<td>-0.026</td>
<td>.424*</td>
<td>.413*</td>
<td>.437*</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Significant correlations are indicated by an asterisk (*), $p < .000$
as appropriate for this study. Procedures for data collection, as well as the participation rates for this study, were also discussed. Last, the data analyses, methods, and results were described for each hypothesis. Chapter 5 will be a discuss study results with an emphasis on study findings, counselor education and supervision implications, limitations, and recommendations for future research.
Alcohol Use Disorders (AUD) are widespread afflictions that affect 283 million people worldwide (WHO, 2018). AUD harms the physical, emotional, and mental health of people experiencing addiction as well as their affected family members (AFMs). Research shows AFMs are at high risk for abuse and neglect (Gruber & Taylor, 2006; Lipari & Van Horn, 2017), intimate partner violence (IPV; McCrady & Flanagan, 2021), and financial challenges due to family members’ addictions (Orford et al., 2013), as well as strained sleep and fatigue, increased substance use, over- or undereating; diminished mental health, and increased physical illnesses (Orford, Velleman, et al., 2010). Furthermore, AFMs are affected by societal addiction stigma (Corrigan et al., 2006), which can lead to an underuse of community supports (McDonagh et al., 2019) such as Al-Anon family groups.

The purpose of this study was to explore relevant variables for AFMs based on ambiguous loss and relational frame theories. These theories offered contextual, evidence-based
approaches to conceptualize presenting concerns of AFMs. In the literature, contextual models were especially helpful for stigmatized populations such as AFMs (Orford, Copello, et al., 2010), which emphasized a systems perspective to externalize pathology and challenge societal messages that blame and shame AFMs. Relational frame theory informed Acceptance and Commitment Therapy (ACT), a contextual, evidence-based approach to increase psychological flexibility and decrease psychological inflexibility (Hayes, 2004). ACT interventions have been shown to improve depression and anxiety outcomes in particular (Hayes, 2022). In the hope that AFMs could possibly benefit from similar ACT interventions, measures of psychological flexibility and psychological inflexibility were investigated in this study.

Moreover, Boss’s (2006) ambiguous loss theory integrated contextual family stress theory (CFST), which highlights the interrelationships between specific contextual variables of the ambiguous loss situations, such as at-risk perceptions, individual resources, community resources, and subsequent family distress outcomes. Thus, the purpose of this study was to examine differences among AFMs’ experiences of their ambiguous loss situations (i.e., the family member with AUD), individual resources (i.e., psychological flexibility), at-risk perceptions (i.e., psychological inflexibility, boundary ambiguity), and subsequent distress outcomes versus ambiguity tolerance outcomes (i.e., ambiguous loss resilience) among non-involved, newcomers, and members of Al-Anon (i.e., community resource). The CFST model within ambiguous loss theory was investigated in this study to explain possible factors that could improve the counseling field’s understanding of potential protective versus risk factors for AFMs. Next, possible factors relevant to AFM distress were explored based on previous theories. This study was an exploration of a proposed predictive model to identify whether psychological
flexibility, psychological inflexibility, and boundary ambiguity predicted distress outcomes for AFMs and whether these relationships differed based on Al-Anon involvement. Possible factors relevant to AFMs’ resilience (i.e., ambiguity tolerance) were explored based on previous theories. Last, this study was an exploration of a proposed predictive model to identify whether psychological flexibility, psychological inflexibility, and boundary ambiguity predicted ambiguity tolerance outcomes and whether these relationships differ based on Al-Anon involvement. Thus, conceptually, these study results illuminated relationships among factors related to AFM distress versus resilience based on ambiguous loss and relational frame theory. Community support groups were highlighted as instrumental to family mental health in the ambiguous loss literature (Boss, 2006); consequently, Al-Anon involvement was investigated throughout this study to understand the effects of one type of community support group for AFMs.

Al-Anon Involvement, Ambiguous Loss, and Psychological Flexibility Findings

It was hypothesized that there would be differences in AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, distress, and ambiguity tolerance among non-involved, newcomers, and members of Al-Anon. Through the integration of relational frame theory and ambiguous loss theory, which included the CFST model, hypothesized protective factors were psychological flexibility (i.e., individual resource) and Al-Anon involvement (i.e., community resource); hypothesized risk factors were psychological inflexibility, boundary
ambiguity, and non-involvement in Al-Anon; and outcome measures of distress and ambiguity tolerance (i.e., as a measure of resilience) were also included in this study.

This study’s results revealed no statistically significant differences among the three groups of Al-Anon involvement in terms of psychological flexibility ($p < .74$), psychological inflexibility, ($p < .75$), boundary ambiguity ($p < .33$), distress ($p < .68$), or ambiguity tolerance ($p < .92$). Yet there were data trends that supported predicted direction of Al-Anon involvement hypotheses related to psychological flexibility and ambiguity tolerance variables and data trends that went against predicted directions of Al-Anon involvement hypotheses related to boundary ambiguity, psychological inflexibility, and distress (see Table 2).

**Al-Anon Involvement Anticipated Trends**

It was predicted there would be a positive relationship among AFMs’ increased Al-Anon involvement and increased psychological flexibility. AFMs’ psychological flexibility scores were in this predicted direction. That is, non-involved Al-Anon participants endorsed the lowest average psychological flexibility scores ($M = 44.85$), followed by Al-Anon newcomers ($M = 45.36$), and last by Al-Anon members ($M = 46.28$). Therefore, data trends indicated psychological flexibility increased with Al-Anon involvement. This trend is an indication that more research may be warranted to understand the relationship among Al-Anon involvement and aspects of psychological flexibility. Past researchers found evidence that Al-Anon involvement is related to values engagement and a protected sense of self (Young & Timko, 2015), which can be compared to psychological flexibility processes (e.g., values, committed action, and self-as-
context). One reason results may be nonsignificant could be the cross-sectional research design that did not account for baselines. Further, due to the novel integration of these variables for AFMs’ distress, there were no known correlates of psychological flexibility, psychological inflexibility, and boundary ambiguity.

It was predicted that there would be a positive relationship among AFMs’ increased Al-Anon involvement and increased ambiguity tolerance. Data trends were in predicted directions. Non-involved Al-Anon participants endorsed the lowest average ambiguity tolerance scores ($M = 41.16$), followed by Al-Anon newcomers ($M = 41.57$), and last by Al-Anon members ($M = 41.79$). Ambiguity tolerance is defined as resilience for families experiencing ambiguous loss situations (Boss, 2006). Given these trends, perhaps increased Al-Anon involvement, with exposure to acceptance-based principles, related to AFMs’ increased ability to tolerate or accept ambiguity. This trend is an indication that ambiguity tolerance and Al-Anon involvement are important variables needing more exploration in the literature. Since ambiguous loss resilience is defined as ambiguity tolerance and community support is an influential protective factor for other families in ambiguous loss situations (Boss, 2006), further examination of these variables for AFMs would be beneficial.

Al-Anon Involvement Unanticipated Trends

Conversely, there were trends in the data that did not support previous Al-Anon involvement hypotheses related to psychological inflexibility, boundary ambiguity, and distress, yet a similar pattern was found among psychological inflexibility and boundary ambiguity
variables in this study. It was predicted that there would be a negative relationship between AFMs’ increased Al-Anon involvement and decreased psychological inflexibility. Yet Al-Anon newcomers endorsed the highest average psychological inflexibility scores ($M = 40.47$), followed by Al-Anon members ($M = 40.24$), and last by non-involved Al-Anon participants ($M = 39.92$). Consequently, these data trends indicated Al-Anon newcomers experienced higher levels of psychological inflexibility compared to non-involved AFMs. In the literature, Al-Anon newcomers were more likely to have recently drunk alcohol and received addiction treatment themselves, as well as less likely to be satisfied with their quality of life and relationship with family members afflicted by AUD than Al-Anon members (Timko et al., 2013), yet that research did not include non-involved AFMs. These data trends suggest that increased Al-Anon involvement may be related to increased psychological inflexibility. Since psychological inflexibility is related to depression and anxiety outcomes for general populations (Ruiz, 2010), and community support involvement is a protective factor for other families in ambiguous loss situations (Boss, 2006), this data trend calls for further investigation to understand how Al-Anon support groups affect psychological inflexibility for AFMs.

It was predicted that AFMs’ increased Al-Anon involvement would be a protective community factor relating to lowered boundary ambiguity, which is a risk factor associated with caregiver distress, depression, and anxiety (Boss et al., 1990). Similar to previous psychological inflexibility trends, Al-Anon newcomers endorsed the highest average boundary ambiguity scores ($M = 42.57$) compared to other groups. Al-Anon members endorsed moderate boundary ambiguity scores ($M = 40.94$) compared to other groups. Non-involved Al-Anon participants endorsed the lowest average boundary ambiguity scores ($M = 40.27$) compared to the other
groups. Within the ambiguous loss literature, increased boundary ambiguity is a psychological risk factor associated with depression, distress, and anxiety, while community support groups are protective factors for families in ambiguous loss situations (Boss, 2006). Therefore, based on ambiguous loss theory, a negative relationship between boundary ambiguity and Al-Anon involvement was expected, yet data trends in this study challenged previous findings, in which AFMs with no Al-Anon involvement had the lowest boundary ambiguity scores. That is, AFMs not participating in Al-Anon had less confusion related to the absence, presence, and role of the person with AUD in their family. However, there was evidence that Al-Anon members versus newcomers experienced relationship improvements with their family members with AUDs (Timko et al., 2015). This literature provided some preliminary support indicating newcomers, who do not sustain Al-Anon attendance, may exhibit increased boundary ambiguity and psychological inflexibility with their family members compared to Al-Anon members. More research related to boundary ambiguity, psychological inflexibility, and AFMs’ Al-Anon involvement versus non-involvement is needed.

Last, a new data pattern manifested in terms of Al-Anon involvement and distress. It was predicted that there would be a negative relationship among AFMs’ increased Al-Anon involvement and decreased distress, yet Al-Anon members endorsed the highest average distress scores ($M = 29.89$) compared to the other groups. Non-involved Al-Anon participants endorsed moderate distress scores ($M = 29.68$) compared to other groups. Al-Anon newcomers endorsed the lowest average distress scores ($M = 28.78$) compared to other groups. There is literature indicating Al-Anon members endorsed higher rates of mental health problems compared to newcomers (Young & Timko, 2015). This data trend indicated Al-Anon members, with the most
support group attendance, had the highest levels of distress compared to newcomers and non-involved AFMs. Perhaps due to Al-Anon members’ elevated levels of distress, they need continued support from Al-Anon more than newcomers and non-involved AFMs experiencing less distress. Further exploration in the literature could clarify the relationships among AFMs’ distress levels and Al-Anon involvement. The previous data trends related to Al-Anon involvement, psychological flexibility, ambiguity tolerance, psychological inflexibility, boundary ambiguity, and distress were not statistically significant in this study. Therefore, any interpretation of these data trends were exploratory in nature and interpreted with caution. Conversely, there were statistically significant findings in terms of predictive models between variables of psychological flexibility, psychological inflexibility, and boundary ambiguity with distress and ambiguity tolerance outcomes, and these models did depend on Al-Anon involvement. Thus, despite the nonsignificant between-subjects results here, Al-Anon involvement remained a useful variable to consider for AFMs.

**Ambiguous Loss, Psychological Flexibility, and Distress Findings**

It was hypothesized that AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would predict distress outcomes. Results revealed that psychological flexibility, psychological inflexibility, and boundary ambiguity did predict distress outcomes for all AFMs ($p < .000$). Moreover, psychological flexibility, psychological inflexibility, and boundary ambiguity together explained 61.2% of the total variance in distress outcomes ($p < .000$), which is a novel finding in the literature. Such a finding illustrates the need to integrate
ambiguous loss and relational frame theory jointly for AFMs in subsequent research studies. Additionally, the relationship among variables in this model fit hypothesized directions for distress outcomes. First, increased psychological flexibility predicted decreased distress for AFMs ($p < .000$). Similarly, the negative relationship between psychological flexibility and distress has been demonstrated for the ambiguous loss situation of the COVID-19 pandemic (Pakenham et al., 2020; Prudenzi et al., 2022). Second, increased psychological inflexibility predicted increased distress for AFMs ($p < .000$). Likewise, psychological inflexibility positively predicted burnout, stress, anxiety, and depressive symptoms for family caregivers of children with neurodevelopmental disabilities, accounting for 28% to 48% of the variance in such outcomes (Sairanen et al., 2018). Last, increased boundary ambiguity predicted increased distress for AFMs ($p < .000$). This novel finding for AFMs was similar to the positive relationship between boundary ambiguity and distress for families affected by multiple types of ambiguous losses (Boss et al., 1990; Carroll et al., 2007). Hence, these findings provide preliminary support that psychological flexibility, psychological inflexibility, and boundary ambiguity are influential predictors of distress for AFMs and demonstrate similar relationships between variables with other families affected by various ambiguous loss situations.

**Al-Anon Involvement and Distress Findings**

It was hypothesized that the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and distress outcomes would be moderated by Al-Anon involvement. Results indicated that the relationships between psychological flexibility,
psychological inflexibility, boundary ambiguity, and distress outcomes were not moderated by Al-Anon involvement (non-involved participants, newcomer, member) due to nonsignificant interactions. Further, the interaction of Al-Anon involvement with each predictor variable (psychological flexibility, psychological inflexibility, and boundary ambiguity) accounted for 61.0% of the variance in distress ($p < .000$), which is a .2% increase in the predicted variance from the previous model. This finding provided minimal support linking AFMs’ psychological factors (i.e., psychological flexibility, psychological inflexibility, boundary ambiguity), Al-Anon involvement, and distress outcomes, yet Al-Anon involvement was not an influential or significant variable for AFMs based on these results.

**Ambiguous Loss, Psychological Flexibility, and Ambiguity Tolerance Findings**

Ambiguity tolerance is defined as resilience during ambiguous loss situations due to the need to accept family members’ absence and presence simultaneously (Boss, 2006). It was hypothesized that AFMs’ psychological flexibility, psychological inflexibility, and boundary ambiguity would predict ambiguity tolerance outcomes. Results revealed that psychological flexibility, psychological inflexibility, and boundary ambiguity did predict ambiguity tolerance outcomes ($p < .000$). Further, psychological flexibility, psychological inflexibility, and boundary ambiguity together explained 24.1% of the total variance in ambiguity tolerance outcomes ($p < .000$). Yet the relationships within the model were not in predicted directions. Increased psychological flexibility, which is related to positive mental health outcomes for general and
clinical populations in the literature (Gloster et al., 2017; Wersebe et al., 2018), predicted decreased resilience or ambiguity tolerance for AFMs ($p < .001$). However, increased psychological inflexibility, which is associated in the literature with decreased wellness outcomes (Wersebe et al., 2018), predicted increased resilience or ambiguity tolerance for AFMs ($p < .000$). These novel findings identified psychological flexibility and psychological inflexibility as influential predictors of AFMs’ ambiguous loss resilience (i.e., ambiguity tolerance) in a surprising way. That is, AFMs’ increased psychological flexibility predicted decreased ambiguous loss resilience in that AFMs were less able to tolerate ambiguity. AFMs’ increased psychological inflexibility predicted increased ambiguous loss resilience in that they were able to tolerate ambiguity more. Last, increased boundary ambiguity predicted increased ambiguity tolerance for AFMs ($p < .000$). Thus, another novel finding in this study indicated increased boundary ambiguity, which is associated with depression and anxiety for other families afflicted by ambiguous losses (Boss et al., 1990; Carroll et al., 2007), predicted increased ambiguous loss resilience for AFMs (i.e., AFMs endorsed higher willingness to tolerate ambiguity).

**Al-Anon Involvement and Ambiguity Tolerance Findings**

It was hypothesized that the relationship between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes would be moderated by Al-Anon involvement. Results indicated the relationships between psychological flexibility, psychological inflexibility, boundary ambiguity, and ambiguity tolerance outcomes
were not moderated by Al-Anon involvement (non-involved participants, newcomer, member) due to non-significant interactions. Psychological flexibility, psychological inflexibility, and boundary ambiguity accounted for 23.6% of the variance in ambiguity tolerance, which is a .005% increase in predicted variance from the previous model. Therefore, Al-Anon involvement was not an influential variable to consider in terms of AFMs’ ambiguity tolerance outcomes based on these results. Only statistically significant findings were considered in the following conclusion and implication sections of this discussion.

**Ambiguous Conclusions**

A clear finding from this study included the identification of ambiguous loss theory and relational frame theory as influential frameworks to understand AFMs. That is, variables chosen based on these previous theories (i.e., psychological flexibility, psychological inflexibility, and boundary ambiguity) accounted for 61.2% of the variance in AFM distress and 24.1% of the variance in AFMs’ resilience. Further, these findings illustrated that the needs of AFMs are complex and require further exploration in the literature.

Expected and unexpected results emerged from this study of AFMs. First, psychological flexibility predicted AFMs’ distress with a negative relationship as expected, yet unexpectedly psychological flexibility predicted AFMs’ ambiguous loss resilience with a negative relationship as well. Thus, psychological flexibility served as a protective factor in terms of distress for AFMs yet a risk factor in terms of ambiguous loss resilience. Moreover, psychological flexibility
was the least important predictor for AFMs’ distress, distress and Al-Anon involvement, ambiguity tolerance, and ambiguity tolerance and Al-Anon involvement. Second, psychological inflexibility predicted AFMs’ distress with a positive relationship as expected, yet unexpectedly, psychological inflexibility predicted AFMs’ ambiguous loss resilience with a positive relationship. Thus, psychological inflexibility served as a risk factor in terms of distress for AFMs yet a protective factor in terms of ambiguous loss resilience. Further, psychological inflexibility was the most important predictor for AFMs’ distress, distress and Al-Anon involvement, ambiguity tolerance, and ambiguity tolerance and Al-Anon involvement. Third, boundary ambiguity predicted AFMs’ distress with a positive relationship as expected, yet unexpectedly, boundary ambiguity predicted AFMs’ ambiguous loss resilience with a positive relationship. Thus, increased boundary ambiguity served as a risk factor in terms of distress for AFMs yet a protective factor in terms of ambiguous loss resilience. In addition, boundary ambiguity was found to be the second most important predictor of AFMs’ distress, distress and Al-Anon involvement, and ambiguity tolerance and the third most important predictor of AFMs’ ambiguity tolerance and Al-Anon involvement. These findings illustrate the complexity of AFMs’ psychological processes, risk versus protective factors, and experiences of distress versus ambiguous loss resilience. Consequently, the risk and protective factors for AFMs are just as unclear as their ambiguous loss situations.
Counselor Education and Supervision Implications

These are novel findings with significant implications within the counselor education and supervision field. To begin with, AFMs are underaddressed in the research literature. Consequently, researchers and counselors at large have limited evidence to understand the needs of AFMs. Thus, this study served as an advocacy project to address AFMs as an overlooked population in the literature, especially in terms of recent clinical theories. Subsequently, this study confirmed that ambiguous loss theory and relational frame theory are influential and significant conceptualizations of AFMs’ experiences. In particular, the contextual family stress theory (CFST), with identified interrelationships between families’ experiences of harmful events, resources, perceptions, and subsequent degree of distress, was a useful conceptualization for AFMs’ experiences. To the best of my knowledge, significant constructs from relational frame theory, namely psychological flexibility and psychological inflexibility, have not been studied within the AFM population prior to this study. Similarly, there was limited ambiguous loss research that specifically addressed AFMs as well (Carroll et al., 2007).

Next, since these study findings are novel, it is essential to disseminate this information throughout the counselor education and supervision field. That is, counselor educators and supervisors can understand the relationships between AFMs’ psychological flexibility, psychological inflexibility, boundary ambiguity, and distress versus resilience outcomes to support this population. Due to the ambiguity inherent in these findings, a contextual and individualized clinical approach would be recommended for AFMs. Furthermore, efforts to educate emerging and practicing counselors to conceptualize AFMs’ experiences as ambiguous
losses affected by specific psychological processes (e.g., psychological flexibility, psychological inflexibility, and boundary ambiguity) can inform interventions to enhance supportive services. Since AFMs’ ambiguous loss situations can lead to grief and trauma reactions, distress, and symptoms of depression and anxiety (Betz & Thorngren, 2006; Boss et al., 1990; Boss & Yeats, 2014), counseling interventions grounded in appropriate theory and research are needed to support this population. Additionally, counselors would benefit by understanding the ideological, structural, interpersonal, and internalization effects of addiction stigma on AFMs in order to provide multiculturally responsive care. That is, AFMs are exposed to addiction stigma (Corrigan et al., 2006), which can be internalized (D’Aniello et al., 2021) and deter involvement in community-based supports like Al-Anon or other secular groups (McDonagh et al., 2019). AFMs would benefit from counselors demonstrating addiction stigma awareness, inclusive language practices, advocacy, and possibly the encouragement of community support interventions when appropriate.

**Limitations**

The convenience sampling method served the purpose of this study with noted limitations. That is, participants from this study included workers on the MTurk platform only. This sampling method could include participants who are not a part of the study focus in the study results (Kim & Oh., 2022). Due to the difficulty acquiring enough Al-Anon newcomers and members on the MTurk platform, more rigorous methods should be used in future studies to
confirm participant identity and validity, which were not employed in this study. Future researchers could integrate questions that test and retest the participant’s self-reporting for accuracy and validity (e.g., the same question asked in different ways) to further address this limitation. Participants failing the validity questions could be screened out of the study sample results. In addition, the Al-Anon involvement between-subjects design was limited on the MTurk platform due to difficulty attracting an equal number of non-involved participants, Al-Anon newcomers, and Al-Anon members. For example, other researchers have developed ways to work with the Al-Anon’s World Service Office to gather information from confirmed newcomers and members (Timko et al., 2013), which can be employed as another useful sampling strategy in future studies. Another limitation of this study included the non-identification of secular types of support group involvement for AFMs. That is, it is important to understand whether non-involved Al-Anon participants selected different types of community support groups, as this could be an important factor to consider in relation to study findings. Further, this study’s focus on Al-Anon newcomers and members is a specific demographic that could have limited the diversity of this study’s sample.

**Recommendations for Further Research**

It is important to replicate the results of this study because the findings for AFMs were novel. Study replication efforts could include other AFM samples and additional rigorous sampling methods (i.e., as previously noted in the limitation section). Further, ANOVA testing
with demographic data for study samples could identify potential differences between groups of AFMs as covariates affecting distress versus ambiguity tolerance. That is, other researchers have found this statistical strategy beneficial to evaluating variables of psychological flexibility for family members affected by traumatic brain injuries (Rickardsson et al., 2022). Additionally, AFMs (Anda et al., 2002; Orford et al., 2013) and Al-Anon participants (Al-Anon Family Group Headquarters Inc., 2015) are at high risk to experience abuse and neglect. While ambiguous losses have been associated with traumatic stress symptoms (Boss, 2006). In the literature, adverse childhood experiences (ACEs) are a powerful predictor to understand the relationship between AFMs’ adverse or traumatic events, distress, and resilience. Felitti and colleagues (1998) linked ACEs (i.e., experiences of abuse, neglect, domestic violence, and family mental health concerns before age 18) with a cumulative decline in health and mental health outcomes (N = 13,494), and most participants (65%) endorsed experiencing at least one ACE. There is one investigation related to the COVID-19 pandemic, ACEs, and psychological flexibility.

Thus, AFMs’ ACEs are a pertinent variable to explore in future research. Notably, researchers found psychological flexibility moderated the relationship between ACEs and mental health outcomes during the ambiguous loss situation of the pandemic (Browne et al., 2022). Browne and associates observed people with more ACEs reported less ongoing distress as the pandemic persisted over time in comparison to people with more ACEs. Moreover, there have been no published studies to my knowledge investigating ambiguous loss, psychological flexibility, and ACEs for AFMs. Based on the noted gap in the literature, future research could explore the relationship among experiences of ambiguous loss, psychological flexibility, and ACEs for AFMs.
Researchers have identified AFMs’ perceptions toward AUD can influence Al-Anon involvement (Timko, Laudet, et al., 2014). That is, Al-Anon termination has been related to “not believing in the disease model of addiction. . . conflicts with the concepts of surrender, powerlessness, and spirituality” (Timko, Laudet, et al., 2014, p. 331). AFMs’ perceptions are an integral component to explore in relation to their Al-Anon involvement. Additionally, an exploration of other types of community support resources could benefit AFMs (Rehm & Room, 1992). There have been no published studies to my knowledge investigating ambiguous loss, psychological flexibility, and addiction stigma. Perceived and internalized addiction stigma can be a barrier to support-seeking behavior for AFMs (McDonagh et al., 2019). Also, Boss (2006) identified stigma as a barrier to ambiguous loss resiliency because it harms positive identity recreation. To illustrate, researchers investigated caregivers of people with intellectual disabilities and mental health disorders (i.e., other types of psychological ambiguous losses); they found stigma significantly related to perceived caregiver burden and stress ($p < .001$), and stigma accounted for 25% of the variance in negative caregiver attitudes (Mak & Cheung, 2008). Researchers have yet to measure the relationship between psychological flexibility and internalized addiction stigma for AFMs. Consequently, future research could explore variables of ambiguous loss, psychological flexibility, and internalized addiction stigma for AFMs.
BIBLIOGRAPHY


https://doi.org/10.1080/1556035X.2015.1066725


https://doi.org/10.1093/heapro/daz036

https://doi.org/10.1080/16066350701850295


White, W. (2009). *Long-term strategies to reduce the stigma attached to addiction, treatment, and recovery within the city of Philadelphia (with particular reference to medication-assisted treatment/recovery).* Department of Behavioral Health.


APPENDIX A

RECRUITMENT FLYER
Recruitment Flyer

Adult Family Members of People with Alcohol Addictions Needed

Hello. My name is Giselle Navarro and I am a PhD candidate in the Counselor Education and Supervision program at Northern Illinois University. I am conducting a dissertation study called “The Ambiguous Loss of Alcohol Use Disorders for Affected Family Members: Can Al-Anon Involvement and Psychological Flexibility Make a Difference?” to complete the requirements of my doctoral degree.

Purpose of Study

The purpose of this study is to understand how Al-Anon involvement and psychological factors relate to distress versus resilience for family members of people with alcohol use disorders.

Inclusion Criteria

To participate in this study, you must be an adult (18-years-old or older) family member of a person with an alcohol use disorder or alcohol addiction. Family members can include spouses, parents, grandparents, siblings, adult children, or extended family members.

Study Procedures

You will be asked to complete five survey questionnaires through your Amazon Mechanical Turk account (MTurk). The surveys will be related to general demographics, Al-Anon involvement (if any), psychological flexibility, boundary ambiguity, resilience, and distress. This study will take approximately 20 to 25 minutes to complete.

Compensation

You will be credited up to 1 US dollar for the completion of all survey measures through your MTurk account. You will need to complete all survey measures to receive compensation.
Contact

Please contact me, Giselle Navarro, at Z1779216@students.niu.edu if you have any questions, or for more information on how to participate in this study. Thank you for your consideration!
APPENDIX B

INFORMED CONSENT
Appendix B

Informed Consent
Northern Illinois University
Consent to Participate in a Research Study

Study Title: The Ambiguous Loss of Alcohol Use Disorders for Affected Family Members: Can Al-Anon Involvement and Psychological Flexibility Make a Difference?

Investigators

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept</th>
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</thead>
<tbody>
<tr>
<td>Giselle Navarro (PI)</td>
<td>Counseling</td>
</tr>
<tr>
<td>Dr. Melissa Fickling (Mentor)</td>
<td>Counseling</td>
</tr>
<tr>
<td>Dr. Peitao Zhu</td>
<td>Counseling</td>
</tr>
<tr>
<td>Dr. Dana Isawi</td>
<td>Counseling</td>
</tr>
<tr>
<td>Dr. David Walker</td>
<td>Statistics</td>
</tr>
</tbody>
</table>

Key Information

- This is a voluntary research study on how Al-Anon involvement and psychological flexibility relates to distress versus resilience for family members of people with alcohol addictions.

- This 15 to 20 minute study involves completing 5 survey questionnaires through your Amazon Mechanical Turk account (MTurk). The benefits of this research include: possible increased knowledge and self-awareness related to your own mental health; and the results of this study could inform future mental health interventions to support the well-being of affected family members of people with alcohol addictions. The risks include minor discomfort related to survey content and possible changes to mood.

Description of the Study
The purpose of the study is to understand how Al-Anon involvement and psychological factors relate to distress versus resilience for family members of people with alcohol addictions. If you agree to be in this study, you will be asked to do the following things: review and consent to study participation, complete five online survey measures, and review debriefing statement.

**Risks and Benefits**

The study has the following risks. The one study risk includes brief discomfort or change in mood related to survey questions with minimal likelihood. To mitigate these risks, this study will be approved and monitored by the Institutional Review Board (IRB) of Northern Illinois University to consider all ways to protect your safety. We will provide you examples of signs that would indicate a need for additional emotional support. Also, we will provide you national resources for accessing additional counseling support within the debriefing statement.

The benefits of participation are possible increased participant knowledge and self-awareness related to psychological measures. This study will help mental health professionals better understand the experience of family members of people with alcohol addictions. Results of this study can inform future mental health interventions to support the well-being of family members of people with alcohol addictions.

**Anonymity**

- This study is anonymous. We will not be collecting or retaining any information about your identity.

- The records of this study will be kept confidential to the extent permissible by law. Research records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file. We will not include any information
in any report we may publish that would make it possible to identify you. Data can be kept up to 3 years post collection; after 3 years, all data will be deleted permanently.

**Compensation**

You will receive the following compensation for your time. You will be credited up to 1 US dollar for the completion of all survey measures and debriefing statement through your MTurk account. Compensation will be commensurate with the time and effort taken to complete surveys. You will need to complete all survey measures to receive compensation for participating in this study.

**Your Rights**

The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time. Your decision will not result in any loss of benefits to which you are otherwise entitled. You have the right to skip any question or research activity, as well as to withdraw completely from participation at any point during the process.

You have the right to ask questions about this research study and to have those questions answered before, during, or after the research. If you have any further questions about the study, at any time feel free to contact the researcher, Giselle Navarro at Z1779216@students.niu.edu or by telephone at XXX-XXX-XXX; or dissertation chair, Dr. Melissa Fickling at mfickling@niu.edu. If you have any questions about your rights as a research participant that have not been answered by the investigators or if you have any problems or concerns that occur as a result of your participation, you may contact the Office of Research Compliance, Integrity, and Safety at (815)753-8588.

**Future Use of the Research Data**
After removing all identifying information from your data, it could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you.

**Disclosure of Research Results to Participants**

Disclosure of survey results will not be disclosed to participants.

By continuing below, you are indicating that you have decided to volunteer as a research participant for this study, and that you have read and understood the information provided above. Please take a screenshot or picture of this form to keep for your records. Please proceed forward to complete survey measures if you consent to participate in this study.

**I agree to participate in this study. [or “Continue” or “Next”]**
APPENDIX C

DEMOGRAPHIC AND AL-ANON INVOLVEMENT QUESTIONNAIRE
Appendix C

Demographic and Al-Anon Involvement Questionnaire

For demographic questions, use the following question categories as a guide in answering:

1. What is your biological sex assigned at birth?
   a. Man
   b. Woman
   c. Intersex

2. What is your age?
   a. 18 to 19 years
   b. 20 to 24 years
   c. 25 to 29 years
   d. 30 to 34 years
   e. 35 to 39 years
   f. 40 to 44 years
   g. 45 to 49 years
   h. 50 to 54 years
   i. 55 to 59 years
   j. 60 to 64 years
   k. 65 to 69 years
   l. 70 to 74 years
   m. 75 to 79 years
   n. 80 to 84 years
   o. 85 years and over
3. What is your racial background?
   a. White – A person having origins in any of the original people of Europe, the Middle East, or North Africa.
   b. Black or African American – A person having origins in any of the Black racial groups of Africa.
   c. American Indian or Alaska Native – A person having origins in any of the original people of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
   d. Asian – A person having origins in any of the original people of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
   e. Native Hawaiian or Other Pacific Islander
   f. Hispanic or Latino/a

4. What is your highest level of education completed?
   a. Elementary or High school, No diploma
   b. Elementary or High school, GED
   c. High school diploma
   d. College, No degree
   e. Associate’s degree, Vocational
   f. Associate’s degree, Academic
   g. Bachelor’s degree
   h. Master’s degree
i. Professional degree
j. Doctorate degree

5. What is your current romantic relationship status?
   a. Married
   b. Partnered (committed partner, but not married)
   c. Widowed
   d. Divorced
   e. Separated
   f. Not in a relationship

6. Do you practice a specific religion or spirituality?
   a. Yes
   b. No

7. Please select your relationships to any family member who has an alcohol use disorder or alcohol addiction. Check all that apply.
   a. Husband/fiancé
   b. Father/step-father
   c. Son/step-son
   d. In-laws
   e. Brother/step-brother
   f. Ex-husband
   g. Uncle/aunt
   h. Grandparent/step-grandparent
   i. Mother/step-mother
j. Wife/fiancé

k. Daughter/step-daughter

For Al-Anon involvement, use the following scale as a guide in answering:

8. Endorse only one of the following statements that best applies to your Al-Anon involvement.

   a. I have never attended an Al-Anon meeting.
   b. I have attended 6 or fewer Al-Anon meetings.
   c. I have attended more than 6 A-Anon meetings.
APPENDIX D

BOUNDARY AMBIGUITY SCALE #6
Appendix D

Boundary Ambiguity Scale #6

The following statements are about your relationship with your family member. (As you read, imagine his/her/their name in the blank space in each sentence.) Using the scale provided as a guideline, choose the number that best shows how you feel and place it in the blank to the left of each item. There are no right or wrong answers. It is important that you answer every item, even if you are unsure of your answer.

For questions 1-14, use the following scale as a guide in answering:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree &amp; Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
<td>Unsure How I Feel</td>
<td></td>
</tr>
</tbody>
</table>

1. I feel guilty when I get out of the house to do something enjoyable while _______ remains at home.
2. I feel it will be difficult if not impossible to carve out my own life as long as _______ needs my help.
3. I feel incapable of establishing new friendships right now.
4. I feel I cannot go anywhere without first thinking about _______ ’s needs.
5. I feel like I have no time to myself.
6. Sometimes I’m not sure where _______ fits in as part of the family.
____ 7. I’m not sure what I should expect ______ to do around the house.

____ 8. I often feel mixed up about how much I should be doing for ______.

____ 9. I put ______’s needs before my own.

____ 10. My family and I often have disagreements about my involvement with ______.

____ 11. When I’m not with ______, I find myself wondering how s/he is getting along.

____ 12. Family members tend to ignore ______.

____ 13. ______ no longer feels like my spouse/parent/sibling.

____ 14. I think about ______ a lot.
APPENDIX E

MULTIDIMENSIONAL PSYCHOLOGICAL FLEXIBILITY INVENTORY-24
Appendix E

Multidimensional Psychological Flexibility Inventory-24

For the next 24 questions, use the following scale as a guide in answering:


<table>
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<tr>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never True</td>
<td>Rarely True</td>
<td>Occasionally</td>
<td>Often True</td>
<td>Very Often</td>
<td>Always True</td>
</tr>
<tr>
<td>True</td>
<td>True</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the last two weeks…

___ 1. I was receptive to observing unpleasant thoughts and feelings without interfering with them.

___ 2. I tried to make peace with my negative thoughts and feelings rather than resisting them.

___ 3. I was attentive and aware of my emotions.

___ 4. I was in tune with my thoughts and feelings from moment to moment.

___ 5. Even when I felt hurt or upset, I tried to maintain a broader perspective.

___ 6. I carried myself through tough moments by seeing my life from a larger viewpoint.

___ 7. I was able to let negative feelings come and go without getting caught up in them.

___ 8. When I was upset, I was able to let those negative feelings pass through me without clinging to them.

___ 9. I was very in-touch with what is important to me and my life.

___ 10. I stuck to my deeper priorities in life.
11. Even when I stumbled in my efforts, I didn't quit working toward what is important.

12. Even when times got tough, I was still able to take steps toward what I value in life.

13. When I had a bad memory, I tried to distract myself to make it go away.


15. I did most things on "automatic" with little awareness of what I was doing.

16. I did most things mindlessly without paying much attention.

17. I thought some of my emotions were bad or inappropriate and I shouldn't feel them.

18. I criticized myself for having irrational or inappropriate emotions.

19. Negative thoughts and feelings tended to stick with me for a long time.

20. Distressing thoughts tended to spin around in my mind like a broken record.

21. My priorities and values often fell by the wayside in my day to day life.

22. When life got hectic, I often lost touch with the things I value

23. Negative feelings often trapped me in inaction.

24. Negative feelings easily stalled out my plans.
APPENDIX F

MULTIPLE STIMULUS TYPES AMBIGUITY TOLERANCE SCALE–II
Appendix F

Multiple Stimulus Types Ambiguity Tolerance Scale–II

For the next 13 questions, use the following scale as a guide in answering:

<table>
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<th>5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

___ 1. I don’t tolerate ambiguous situations well.

___ 2. I would rather avoid solving a problem that must be viewed from several different perspectives.

___ 3. I try to avoid situations that are ambiguous.

___ 4. I prefer familiar situations to new ones.

___ 5. Problems that cannot be considered from just one point of view are a little threatening

___ 6. I avoid situations that are too complicated for me to easily understand.

___ 7. I am tolerant of ambiguous situations.

___ 8. I enjoy tackling problems that are complex enough to be ambiguous.

___ 9. I try to avoid problems that don’t seem to have only one “best” solution.

___10. I generally prefer novelty over familiarity.

___11. I dislike ambiguous situations.
12. I find it hard to make a choice when the outcome is uncertain.

13. I prefer a situation in which there is some ambiguity.
APPENDIX G

KESSLER PSYCHOLOGICAL DISTRESS SCALE
Appendix G

Kessler Psychological Distress Scale

For the next 10 questions, use the following scale as a guide in answering:

<table>
<thead>
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<th>5</th>
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<tbody>
<tr>
<td></td>
<td>None of the time</td>
<td>A little of the time</td>
<td>Some of the time</td>
<td>Most of the time</td>
<td>All of the time</td>
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</table>

___ 1. In the past 4 weeks, about how often did you feel tired out for no good reason?

___ 2. In the past 4 weeks, about how often did you feel nervous?

___ 3. In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?

___ 4. In the past 4 weeks, about how often did you feel hopeless?

___ 5. In the past 4 weeks, about how often did you feel restless or fidgety?

___ 6. In the past 4 weeks, about how often did you feel so restless you could not sit still?

___ 7. In the past 4 weeks, about how often did you feel depressed?

___ 8. In the past 4 weeks, about how often did you feel that everything was an effort?

___ 9. In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?

___ 10. In the past 4 weeks, about how often did you feel worthless?
APPENDIX H

DEBRIEFING SCRIPT
Appendix H

Debriefing Script

Thank you for completing this important study to better understand family members of people with alcohol use disorders and their supportive forums. The content within these survey measures could have caused you discomfort or affected your mood. Please review the attached resources for additional emotional support, especially if you notice any negative changes to your mood, eating patterns, sleeping patterns, or difficulty functioning in school, work, or relationships that is not typical after the completion of this study. Although we do not believe this study will contribute to any crisis situation, if you are in need of immediate crisis support, in which you or other people’s safety is at-risk (e.g., due to self-harm, excessive substance use, suicidal thoughts, chronic death wishes, thoughts about hurting others, or interpersonal violence), please contact the 24-hour national crisis hotline for assistance.

Crisis Line:

- National Suicide Prevention Lifeline at 1-800-273-8255(TALK)

Support Line:

- Warm Lines organized by state within USA at
  https://screening.mhanational.org/content/need-talk-someone-warmlines/

Treatment Referral Information:

- SAMSHA’s National Helpline 1-800-662-4357(HELP)
- Behavioral Health Treatment Finder at https://findtreatment.samhsa.gov/

If you have any further questions about this study, or want to report your experience based on your study involvement, feel free to contact the primary researcher, Giselle Navarro at
Z1779216@students.niu.edu or dissertation chair, Dr. Melissa Fickling at mfickling@niu.edu.

Thank you!
APPENDIX I

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER
Appendix I

Institutional Review Board Approval Letter

26-Aug-2022

TO: Giselle Navarro (01779216)

Counseling, Adult and Higher Education

RE: Protocol # HS23-0030 “The Ambiguous Loss of Alcohol Use Disorders for Affected Family Members: Can Al-Anon Involvement and Psychological Flexibility Make a Difference?”

In a preliminary review, the Initial Submission of the above named research protocol was determined to meet the definition of human subjects research according to the federal regulations. The submission was then reviewed and approved by the Institutional Review Board through the expedited review process [45 CFR 46.110(b)(1) category 7] under Member Review procedures on 26-Aug-2022. Please note the following information about your approved research protocol:

Protocol Approval period: 26-Aug-2022 - 25-Aug-2023

It is important for you to note that as an investigator conducting research that involves human participants, you are responsible for ensuring that this project has current IRB
approval at all times. If your project will continue beyond the above date, or if you intend to make modifications to the study, you will need additional approval and should contact the Office of Research Compliance, Integrity, and Safety for assistance. In addition, you are required to promptly report to the IRB any injuries or other unanticipated problems or risks to subjects or others.

Please note that the IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

**Informed Consent:**

Unless you have been approved for a waiver of the written signature of informed consent, this notice includes a date-stamped copy of the approved consent form for your use. NIU policy requires that informed consent documents given to subjects participating in non-exempt research bear the approval stamp of the NIU IRB. This stamped document is the only consent form that may be photocopied for distribution to study participants.

If consent for the study is being given by proxy (guardian, etc.), it is your responsibility to document the authority of that person to consent for the subject. Also, the committee recommends that you include an acknowledgment by the subject, or the subject's representative, that he or she has received a copy of the consent form.

You are responsible for retaining the signed consent forms obtained from your subjects for a minimum of three years after the study is concluded.

**Continuing Review:**

Continuing review of the project, conducted at least annually, will be necessary until data collection is complete and you no longer retain any identifiers that could link the subjects to
the data collected. Please remember to use your protocol number (HS23-0030) on any
documents or correspondence with the IRB concerning your research protocol.

**Closing the Study:**

Please note that a final report submission should be created in the record in lieu of an annual
continuation form if data collection has ended and the data are free of identifiers. The final
report is a separate submission form in the list of options in the InfoEd record, and it may be
submitted prior to the annual review deadline.

With all of this said, the IRB extends best wishes for success in your research endeavors!

Please see the RIPS website for guidance on the impact of COVID-19 on
Research (including face-to-face data collection) https://www.niu.edu/divresearch/covid
/index.shtm