

ABSTRACT

Title of Dissertation: HOW NEEDS, NETWORKS, AND
 NARRATIVES PROMOTE A
 WILLINGNESS TO ENGAGE IN
 EXTREMISM

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Psychology, 2020

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Psychological theorists maintain that all behaviors are motivated by a basic set of biological and psychogenic needs (Deci & Ryan, 2000; Fiske, 2004; Higgins, 2012; Maslow, 1943). Different levels and constellations of needs elicit widely different behaviors from different individuals. The present research inquiries into conditions that increase individuals' readiness to engage in behaviors characterized as extreme. According to Kruglanski et. al. (2018) extreme behavior occurs under the conditions of motivational imbalance when one need dominates others for a protracted period of time.

Whereas the model of motivational imbalance pertains to any need, in the present research I was interested in how it plays out when the dominant need is individuals' quest for significance and mattering assumed to motivate individuals to engage in extremism for ideological causes (Kruglanski et al., 2013, 2014, 2017). The

need for significance is social in nature, as significance is defined in terms of living up to values cherished by a given group. Hence, Kruglanski, Belanger & Gunaratna (2019) proposed a 3N model of extremism in which the *need* for significance is served by behaviors identified in the *narrative* embraced by the individual's social *network*.

Four studies examined the 3N model toward exploring the psychological processes that set the stage for extremism. This research was driven by two main objectives. The first objective was to explore how three factors claimed to be of major influence on extremism, namely individuals' Needs, their social Networks, and the Narratives embraced by those networks interact to motivate individuals' willingness to make sacrifices. Second, to expand the body of empirical evidence supporting the 3N model by investigating thus far unexamined conditions of activating the quest for significance, and their possible interaction with an individuals' Regulatory Focus orientation (Higgins, 1997). The results of the four studies provided mixed support for the hypothesized relations. Potential explanations and theoretical implications of the findings are discussed.

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WILLINGNESS TO ENGAGE IN EXTREMISM

by

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctorate of Philosophy in
Psychology
2020

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Chapter 1: Introduction

As a result of the growing partisan divide in the United States, as well as the recent notable acts of politically motivated violence both in America and abroad, many are debating what factors might lead individuals down a pathway to extreme violence. Psychological theorists maintain that all behaviors are motivated by a basic set of biological and psychogenic needs (Deci & Ryan, 2000; Fiske, 2004; Higgins, 2012; Maslow, 1943). Different levels and constellations of these needs elicit widely different behaviors from different individuals. The present dissertation inquiries into conditions that lead some individuals towards behaviors characterized as extreme.

According to Kruglanski et. al. (2018) extreme behavior occurs under the conditions of motivational imbalance when one need dominates others for a protracted period of time. In this dissertation, I examined how the aforementioned psychological process works to produce the willingness to sacrifice for an important cause, hence permitting the emergence of unusual behaviors meriting the label ‘extreme’. My focus in this work was the need for significance assumed to underlie ideologically motivated extremism and I was guided in this exploration by the 3N model wherein the *need* for significance is addressed by a *narrative* as to how significance may be attained, held by the individual’s *network*, or ingroup. (Kruglanski et. al., 2009; 2013 et. al.; 2014 et. al.; 2017 et. al.; Kruglanski, Bélanger, & Gunaratna, 2019. Specifically, I employed the 3N model to explore the conditions that may lead individuals to make sacrifices on the behalf of an important cause.

Given the current partisan political climate in the United States, conditions are in place that might motivate individuals to commit acts of extreme violence in service of their ideological belief systems. Both conservatives and liberals in America feel that their values are under attack by the opposing party and that the rhetoric being used by influential individuals from both sides of the political spectrum are adding to the divide. According to Pew (2017), the divisions between fundamental political values for Republicans and Democrats on government, race, immigration, national security, environmental protection, and other issues reached record levels during Barack Obama's presidency. This trend is continuing during Donald Trump's presidency as the divisions in support of our society's basic values have grown even larger. Given this widening gap, it is no surprise that the animosity between Republicans and Democrats is also growing. According to Pew (2014), the degree to which people hold highly negative views of the opposing party has more than doubled since 1994. Those who hold more extreme negative views believe that the opposing party's values are "so misguided that they threaten the nation's well-being" (Pew, 2014).

During the past several years, there has been a spate of politically motivated acts of extreme violence. In a recent event of October of 2018, Cesar Sayoc mailed 13 pipe bombs to prominent Democratic party leaders and influencers including President Barack Obama, Hillary Clinton, George Soros, and several others as well as offices of CNN. Fortunately, security systems were in place and the explosive packages were intercepted before they reached their intended targets. It is notable that Cesar Sayoc, appears to have been very active in social media forums and groups that espoused anti-

Democratic party conspiracy theories and he was very supportive of the Make America Great Again campaign.

Political extremism in the United States is paralleled by similar events throughout the globe. In March of 2019, a white supremacist and member of the Alt-Right, Brenton Tarrant, carried out mass shootings in two mosques in New Zealand resulting in the deaths of 51 people and leaving another 49 injured. Tarrant justified his actions in a 74-page written manifesto that called for all Non-European immigrants who had invaded his land to be removed.

Tarrant has claimed that his attacks were inspired by Anders Breivik of the notorious terror attacks of 2011 in Oslo, Norway where over 70 innocent individuals lost their lives. Breivik distributed texts which he used to justify his attacks while blaming Islam and feminism for the cultural decline in Europe. In 2018 in Sri Lanka, churchgoers on Easter Sunday were the targets of a complex suicide bombing attack. Bombers coordinated attacks at three churches which resulted in the deaths of over 300 people. As the occurrence of violent extremism continues to occur worldwide, it is more important than ever to understand what drives individuals to conduct such acts of violence.

These troubling trends highlight the importance of understanding the psychology of extremism. The purpose of this dissertation was to make a step in this direction. The present research was driven by two main goals. The first sought to explore how three factors claimed to be of major influence on extremism, namely individuals' Needs, their social Networks, and the Narratives embraced by those networks interact to motivate individuals' willingness to make sacrifices for a cause.

Second, this proposal aimed to expand the body of empirical evidence supporting the 3N theory of radicalization by investigating how the need assumed to underlie major instances of violent extremism, namely individuals' quest for significance, is activated and how it interacts with an individuals' Regulatory Focus orientation (Higgins, 1997).

Kruglanski's Quest for Significance theory (Kruglanski et. al., 2013) suggests that the need for significance can be activated by both significance losses and potential significance gains. While several laboratory studies have provided evidence for the activating capability of losses there has been no empirical research thus far on the opportunities for significance gain. To address this gap, this dissertation sought to produce evidence that significance-incentivization, the promise of significance gain could play an important role in activating the quest for significance.

In what follows, I first discuss the concept of extremism writ large. Subsequently, I examine the Significance Quest theory, highlighting the mechanisms of activating that Quest, and how it can create a motivational imbalance enabling extreme attitudes, behaviors, or beliefs. Subsequently, I will summarize previous theories of radicalization and relate them to Kruglanski's et al. (2019) 3N model of radicalization.

Chapter 2: Literature Review

2.1 What is Extremism?

What motivates people to engage in extreme acts? The term extreme is defined as “exceeding the ordinary, usual, or expected” (Merriam-Webster. Inc., 1986, p. 441). Extreme behaviors come in many different forms ranging from extreme sports, extreme dieting, a variety of addictions, to joining a terrorist group, conducting a terror attack, or dedicating your life to the service to others as a missionary. Motivational Psychologists agree that people are guided by a basic set of biological and psychological needs. Maslow (1943) describes basic needs as a hierarchy in which lower-level needs must first be satisfied before higher-order needs. Deci & Ryan (2000) propose a universal model of motivation centered around the three basic needs of Competence, Autonomy, and Relatedness. Fiske (2004) identifies five core social motives that include Belonging, Understanding, Controlling, Enhancing Self, and Trusting. While there seems to be disagreement within the field on what needs are basic, there is consensus that basic needs do exist. Basic needs typically constrain one another and it is this constraint or balance of basic needs that keep people from extreme behavior (Kruglanski, 2017). For example, if a scientist has a high need for achievement, he or she may be driven to dedicate the majority of their time and energy to their research interests with the goal of making a revolutionary impact within their field of study. As a result of this goal, the scientist might need to work 80 hours a week or more in order to advance their research interests. However, the goal of scientific success can be moderated by the desire to have a family. This competing need might

cause the scientist to create a balance between time spent in the laboratory and time spent investing in their family relationships. As a result, the scientist will strike a balance between time spent on their research projects and time spent with their family. This constraint of basic needs creates moderation, exhibited to a greater or lesser extent by a majority of people. However, some individuals might forsake their obligations to their family while dedicating nearly all of their time and energy to the pursuit of their professional interests. Such individuals constitute the example of motivational-imbalance that drives extremism (“workaholism” in the example at hand).

As noted earlier, I assume that extremism occurs when one need becomes dominant and others are suppressed as a result (Kruglanski, 2017). Because the latter needs constrain behavior, their suppression enables actions that otherwise would be disallowed. In the example above, a scientist whose need for achievement suppresses their need for relatedness might engage in behaviors detrimental to relatedness, such as spending all her time in the laboratory. But how does this conception of imbalance relate to violent extremism? To understand its relevance, I discuss now a theory that highlights a human need involved in much of this type of extremism.

2.2 Significance Quest Theory

Kruglanski, Bélenger, & Gunaratna (2019) argue that the mechanisms that produce radicalization are ultimately psychological. It is the individual who elects to engage in acts of extreme violence on behalf of a cause that is important to them. I assume that the mechanism that produces violent extremism is the state of motivational imbalance described above, and the dominant need that occasions the imbalance is the

need for significance and mattering in one's own eyes and those of significant others (Kruglanski, Chen, Dechesne, Fishman, & Orehek, 2009; Kruglanski et. al., 2013; Kruglanski et al., 2014). The need for significance can be activated and become a dominant concern when someone experiences a loss of significance, or the threat of significance loss. Activation of significance quest may be triggered by many different events such as individual humiliation (Pedahzur, 2005), an affront to one's social identity (Kruglanski, Crenshaw, Post, & Victoroff, 2008; Sageman, 2004) intergroup conflict (Speckhard & Paz, 2012), or group discrimination (Atran et al., 2007). Imbalance can also be triggered, through incentivization represented by an opportunity for significance gain (Kruglanski, Bélanger, & Gunaratna, 2019).

Research has demonstrated that violence is often the means of choice used to restore a loss of significance (Post, 2006), but there can be other means available for that purpose such as the pursuit of excellence in science, art, or business. In this case, an individual may dedicate themselves in an extreme manner of restoring or gaining significance, but in a manner that is not looked down upon by society. Thus, an individual may choose extreme means to fulfill a need that serves a major moral imperative (Kruglanski 2017). Examples of this include, missionary efforts or dedication to other types of humanitarian work. Basically, significance is attained by realizing, promoting, or representing an important societal value. Whereas some values may be culture-specific, some are nearly universal. Defense of one's group and its principles belong among the latter values.

According to significance quest theory, activation of the quest for significance can be accomplished through significance loss (deprivation) or an opportunity for

significance gain (incentivization). In the present project, I explore the possibility that these two modes of significance need activation are differentially effective for individuals with a predilection for the prevention of negative events or the promotion of positive events. Higgins (1997) regulatory focus theory is relevant to these concerns. I describe it briefly below.

2.3 Regulatory Focus Theory

From ancient philosophers to modern-day psychologists, people have subscribed to the hedonic principle when trying to understand and explain human motivation (Kahneman, Diener, & Schwarz, 1999). The hedonic principle states that people are motivated to approach pleasure and avoid pain (Higgins, 1997). The motive to move towards desired end states and away from undesired end states has been present in many models of personality and social psychology (e.g. Atkinson, 1964; Bandura, 1986; Carver & Scheir, 1981; Lewin, 1935). While the hedonic principle can be applied to many areas of motivation, according to Higgins (1997) it is important to not only know that people approach pleasure and avoid pain, but also how they do so. Regulatory Focus theory posits two separate and independent self-regulatory orientations, or foci--*prevention* and *promotion*, that describe two separate ways of approaching end states (Higgins, 1997). Prevention focus describes the emphasis on safety, responsibility, and security. Individuals with a prevention focus, or in a state that induces a prevention focus, view goals as oughts that represent standards which must be met. Their strategic orientation towards goals can be described as approaching non-losses or avoiding losses. Because of their sensitivity to possible negative events, they prefer a vigilant goal-pursuit strategy.

On the other hand, promotion-focused individuals emphasize hopes, accomplishments, and advancement. They view goals as ideals which represent hopes, wishes, or aspirations. Their strategic orientation towards goal-pursuit is centered on gains such that they approach gains and avoid non-gains. Promotion-focused individuals prefer an eager goal-pursuit strategy.

It is plausible to assume that conditions in which the quest for significance is activated differ for prevention and promotion-focused individuals. The former may be particularly affected by significance loss whereas the latter may be particularly affected by the opportunity for significance gain. This hypothesis is explored in studies described in a subsequent part of this dissertation.

2.4 The 3N's: Needs, Networks, and Narratives

When a person experiences a loss of significance, they will look for opportunities to regain their significance. When this occurs, individuals may be more susceptible to the influences of important networks and their associated narratives, which could potentially lead them down a path to extremism. In the framework of Significance Quest Theory, the narrative component refers to an ideology that connects satisfaction of the need for significance to a particular behavior (i.e. violence) and the network component refers to the group of people who endorse the narrative and validate it (Kruglanski, Jasko, Webber, Chernikova & Molinario, 2018).

As discussed earlier, people sometimes experience a loss of significance related to an affront to their social identity, an important group that they identify with. For example, Muslims, in general, have felt discriminated against (suffered from Islamophobia) and as a result have experienced a personal loss of significance (Adib-

Moghaddam, 2005). More broadly speaking, when a person experiences a reduction in the fundamental sense of significance they are motivated to regain or restore it. In these circumstances, an individual may look to an important network and the ideological narratives that the network espouses in order to determine the appropriate means to pursue that will lead to the restoration of their lost significance. Narratives often promote peaceful contributions to society through acts of service or the accomplishments of group objectives. Narratives encouraging these goals may promote the efforts of hard work, the pursuit of a career, or acts of service towards others (Kruglanski, Jasko, Webber, Chernikova & Molinario, 2018). But narratives may also identify violence against an alleged enemy of one's group as a means to significance.

An individual's network may contribute to the initiation and maintenance of extreme behavior through two relevant functions. Networks serve as an epistemic authority that validates a narrative concerning the means that would serve the goal of significance (Hardin & Higgins, 1996; Kruglanski et al., 2005). Put another way, the network validates both how things are and how things should be and this serves to shape the attitudes and beliefs of its followers. A network also serves as a normative influence that rewards its followers for implementing the narrative. (Kruglanski, Bélanger, & Gunaratna, 2019). Therefore, by acting in accordance with the narrative embraced by a network, the network can bestow value on an individual which can increase their sense of significance.

A defining characteristic of a motivational imbalance is the sacrifice of some needs for the dominant concern. Research has demonstrated that group membership can increase an individual's willingness to accept sacrifices for a collective cause

because the group (the network element of the 3Ns) is a source of significance and acceptance. Swann et al. (2009) demonstrated that ‘fusion’ with a group is an important part of self-concept which ultimately increases the likelihood that an individual will participate in pro-group behavior. Further studies have demonstrated that people experience less guilt and distress when a violent act has been validated socially (Webber, Schimel, Martens, Hayes, & Faucher, 2013).

Over the last 10 years, there has been substantial empirical evidence that points to the vital role that the quest for significance plays in the radicalization process. Data has been collected worldwide from a wide variety of national communities, ethnic groups, and detained terrorism suspects that has allowed scholars to explore the psychological processes that lead to radicalization.

Researchers have explored the relationship between significance loss and a collectivist shift. The phenomenon of collectivist shift represents a “transition from one’s individual identity to one’s social identity as a member of some group” (Kruglanski, Bélanger, & Gunaratna, 2019). The collectivist shift gives individuals a sense of empowerment that comes with group membership and it promotes attunement to the group’s needs and values, that when fulfilled bestow significance on the individual. An internet survey in 12 Arab countries found that people who had lower success achieving personal and individual goals (loss of significance) identified more closely as members of their religions or nation rather than as individuals (Kruglanski, Gelfand, & Gunaratna, 2012). These findings were replicated using respondents from Egypt, Indonesia, Pakistan, and the United States (Kruglanski, Bélanger, & Gunaratna,

2019) suggesting that people who have lower success in achieving personal goals are more likely to embrace a collective identity.

Several laboratory studies further supported the finding that significance loss is related to a higher identification with a collective group. One study found that participants preferred to work in a group rather than alone after experiencing failure (Orehek, Vazeou-Nieuwenhuis, and Kruglanski, 2017). In a series of additional studies, Orehek & Kruglanski (2018) found that when people experience failure, they exhibit a collectivist shift by embracing religious and national identities. One study had participants write an essay about a personal success or failure and then assessed their national identification. They found that participants in the failure condition identified significantly stronger identification as Americans than those in the success condition. In a subsequent experiment, it was found that following negative feedback, participants had a stronger sense of interdependent self-construal compared to those in a positive feedback condition. Thus, results from international surveys and laboratory studies alike attest that when people experience a loss of significance they become ready to engage in collective action for the purpose of gaining or restoring their personal significance.

There have also been a number of studies addressing the extent to which identification with a network can serve as a buffer against life's failures and increase personal significance. This is consistent with the claims made by terror management theorists that when activating one's collective identity the fear of death is reduced (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). To examine this, one study had participants circle

either singular pronouns (i.e. I, me, and my) or collective pronouns (we, us, and ours) in order to prime an individual or collective mindset (Orehek, Sarasota, Kruglanski, Duchesne & Ridgeway, 2014). The results from this and four other studies, the authors found that participants in the collective condition scored lower on a measures of death anxiety. In addition to the impact that group identification had on increasing a readiness to participate in collective action and lowering death anxiety, researchers found that the more one was “fused” with a group the greater was their willingness to sacrifice themselves in a hypothetical trolley scenario (Swann, Gomez, Dovidio, Hart, and Jetten, 2010).

There have also been several studies that have explored the relationship between a loss of significance and support for violence. A survey conducted with former members of the Sri Lankan Liberation Tigers of Tamil Eelam (LTTE) organization found that their feelings of insignificance were positively correlated with support for violence against the Sinhalese majority (Weber, et. al, 2018). Additionally, Bèlanger and Kruglanski (2012) carried out a series of laboratory studies found that religious participants who reported greater sexual guilt after being exposed to sexual images exhibited a greater willingness to sacrifice for a cause.

There is a consistent body of evidence concerning the role that the quest for personal significance has in the radicalization process. The data supporting the 3N model were obtained with a variety of samples from various parts of the world. The various studies have examined a how *loss of significance* may prompt individuals to embrace a collective identity, which reduces their fear of death or prompts a willingness to sacrifice. While this data provides ample evidence supporting the 3N model, there

has been little work that has explored the impact that the *opportunity for significance gain* might have on the radicalization process. This gap in knowledge is addressed in the present research.

In conclusion, need, network, and narrative are vital components of the radicalization process. The need serves as the key motivational element by which the quest for significance defines the goal that an individual seeks to achieve. An ideological narrative identifies the means that a person can use to achieve their goal of significance. Finally, the network validates a given means to significance and ultimately bestows significance on individuals once they have acted in a manner that is worthy of significance according to the network's narrative.

2.5 Other Theories of Radicalization

The topic of radicalization has been of long-standing interest to social scientists, but research on the topic has grown exponentially since the terror attacks of September 2001. In fact, there have been a number of theories, models, or approaches that have preceded the 3N model of radicalization. In this section, several notable approaches to radicalization will be discussed that highlight how the concept of radicalization can be described from different levels of analysis or disciplinary perspectives. As the various approaches are discussed, it becomes apparent that many of the seemingly diverse approaches to radicalization share many common elements. The 3N model of radicalization importantly integrates the various psychological models by addressing the role of individual needs, and the ideological narratives embraced by the network, that ultimately direct which means will members adopt to address their significance restoration goal (Kruglanski, Bélanger, & Gunaratna, 2019).

Table 1.
Other Theories of Radicalization

Theory	Need	Narrative	Network	Integration of 3N's
Root Causes (Horgan, 2004)	✓	X	X	X
Psychological Models	✓	✓	✓	X
Identity Theory (Erikson , 1959)	✓	X	X	X
Narcissism Theory (Crayton, 1982; Kohut, 1972)	✓	X	X	X
Paranoia Theory (Robins & Post, 1997)	✓	X	X	X
Psychological Profiling (Ferracuti & Bruno, 1981)	✓	✓	✓	X
Pathway Approach (Horgan, 2008)	✓	✓	✓	X
Rational Actor Models (Enders & Su, 2007)	✓	X	X	X
Sacred Values (Atran, 2007)	✓	✓	✓	X
Social Network Theory (Dean, 2007; Ressler 2006)	✓	✓	✓	X
Social Movement Theory (Della Porta, 2006)	✓	✓	✓	X

2.5.1 Root Causes of Radicalization

The first model to be discussed concerns the root cause explanation of terrorism. This approach was outlined by John Horgan in his 2004 book, *Psychology of Terrorism*. Central to the root cause explanation are 14 root causes or grievances that are linked to acts of terrorism. The list of root causes includes lack of democracy, civil liberties and the rule of law; failed or weak states; rapid modernization; extremist ideologies of a

secular or religious matter; historical antecedents of political violence civil wars, revolutions, dictatorships, or occupation; hegemony and inequality of power; illegitimate or corrupt governments; powerful external actors; repression by a foreign government; powerful external actors upholding illegitimate governments; repression by foreign occupation or by colonial powers; the experience of discrimination on the basis of ethnic or religious origins; failure or unwillingness by the state to integrate dissident groups or emerging social classes; the experience of social injustice; the presence of charismatic ideological leaders; and triggering events.

Implicit in the understanding of the root cause explanation of radicalization is that an effective counter-radicalization strategy lies in addressing the grievances that allegedly produced the violence. However, there has been little empirical evidence linking the root causes of radicalization. Additionally, the conceptual link between any given 'root cause' enumerated and violence is unclear. The logic here seems to assume that a given root cause (like poverty, political oppression, or poor education) leads to frustration which then breeds aggression. However, psychologists have found little evidence that supports the frustration-aggression hypothesis (Berkowitz, 1993). Simply because one is frustrated does not necessarily mean that they will respond with aggressive behaviors. In fact, there are a wide variety of behavioral responses that people often choose in responding to frustration to include: withdrawal, depression, escape, aggression, or others. Kruglanski (2019) points out that although the hypothesis of root causes of terrorism as described by Horgan has received little empirical support, the factors originally labeled as root causes can still play a major role in the

radicalization process as *contributing factors* that in conjunction with other elements spawn violent extremism.

When analyzing the root causes explanation of radicalization from the perspective of the 3N model, we see that contributing factors clearly pertain to the need factor of the model (Kruglanski, Bèlanger, & Gunaratna, 2019). None of the root causes in isolation are enough to radicalize someone. However, in the right context and in the right combination of a violence-inciting narrative and the network that supports the violent narrative, frustration derived from a given root cause may set the stage for radicalization. According to the 3N model then, root causes such as oppression, lack of education, a general sense of grievances, and other factors can create a loss of significance. Then given the right conditions, such as exposure to an important network and its' ideological narratives that espouse extreme means to the restoration of significance, a person may adopt extreme attitudes, behaviors, or beliefs.

2.5.2 Psychological Models of Radicalization

A second notable approach to extremism are the psychological models of radicalization. The psychological models typically focus on micro-level processes related to personality, attitudes, belief formation, and motivations that lead people to join radical groups. Notable psychological models of radicalization include psychoanalytic theories, psychological profiling notions, and social-psychological theories. The psychoanalytic theories of radicalization rest on the basic assumption that human behavior is influenced by unconscious forces and unresolved childhood conflicts (Gabbard, 2000). The major psychoanalytic theories linked to terrorism are identity theory (Erikson, 1959), narcissism theory (Crayton, 1982; Kohut, 1972, 1978;

Morf, 1970), and paranoia theory (Robins & Post, 1997). Each of these theories refers to a perceived frustration or disappointment with one's self. As a result, these theories account for a loss of significance, a basic human need, through frustration and lowered self-worth. However, this alone does not fully explain the causal factors that lead to radicalization. The psychoanalytic approach to radicalization fails to account for the social and political conditions that a person encounters. As such, these various approaches to radicalization fail to consider how social factors such as a network or narrative might influence the radicalization process.

Another psychological model of terrorism is based upon the assumption that one can identify individuals who are prone to extremism through the development of a psychological profile. The practice of psychological profiling terrorists was popularized in the 1970s and centered on the beliefs that terrorists share common characteristics that correlate with demographic and psychological variables. These include but are not limited to personality traits, age, sex, and education (Kruglanski, Bélanger, & Gunaratna, 2019). One of the earlier findings of the profiling of right-wing Italian terrorists found that terrorists possess an authoritarian-extremist personality (Ferracuti & Bruno, 1981) which was comprised of 9 unique personality characteristics. However, in recent years scholars have come to the consensus that there is little truth in the concept that terrorists suffer from distinct psychopathology (Atran, 2003; Post et. al. 2009; Lankford, 2013). Experts argue that there is no set of demographic or personality types that describe a common terrorist. In fact, they argue that terrorists are "as diverse as the general population" (Atran & Sageman 2006). However, Kruglanski (2019) argues that the conclusions regarding the profiling of

terrorists should not be entirely disregarded. The stable personality traits or cultural variables that are linked to terrorists can be viewed as contributing factors to the radicalization process as they pertain to an individual's needs, networks, and narratives. For example, a person who comes from a group that is deeply embedded within an honor culture (Nisbett & Cohen, 1996) may experience a greater loss of significance due to a threat to their network's honor and may be more prone to extremism. As such, important personality characteristics or values that an individual holds dear, may offer key leverage points that might lead to motivational imbalance following significance loss or opportunity for significance gain.

Horgan (2004, 2008) shifted the discussion from the types of people who might radicalize to the process of how people radicalize. He proposed a pathway approach to the radicalization process which was defined by three phases: becoming a terrorist, being a terrorist, and disengaging from terrorism. According to Horgan (2008), people become terrorists as they are exposed to a series of risk factors some of which include: emotional vulnerabilities; disenfranchisement with social and political issues coupled with the lack of means to impact a change; justified beliefs of directing violence toward the state on the behalf of a cause; belief that they can achieve more through death than through life; and a strong social connection to others experiencing similar issues. Horgan's risk factors for becoming a terrorist overlap with the 3N model in several areas. The need component is relevant to individuals who experience grievances both individually and as a part of a group. For example, when an individual or group experiences injustice or lacks the ability to enact social change, people might feel less significant. Next, the connection to social groups and close others who experience

grievances is directly tied to the network component of the model. Finally, the ideological narrative component is evident in the reinforcement of the belief that death can offer more significance than life and this narrative is validated by a network.

When assessing the various psychological models of radicalization, it is evident that each address various aspects of the 3N model. However, the models do not fully account for or integrate the critical needs, network, and narrative elements as they pertain to the radicalization process. For example, identity theory (Erikson, 1959), narcissism theory (Crayton, 1982; Kohut, 1972, 1978; Morf, 1970), and paranoia theory (Robins & Post, 1997) all account for a lowered sense of significance, but they fail to address the social components tied to networks and narratives. The psychological profiling approach to radicalization identifies certain personality characteristics as they relate to needs, networks, and narratives that may make an individual more susceptible to the radicalization process. Finally, Horgan's (2008) pathway approach shares significant overlap with the 3N model. The pathway approach accounts for the loss of significance, the need component, as it is tied to emotional vulnerability, dissatisfaction with the status quo, and identification with victims. The narrative component is accounted for in the belief that violence is not entirely immoral and that there is prestige to be gained in death. The network component is present in the kinship and close social ties that one shares with others who engage in radical activities. Thus, the 3N model integrates the insights present in prior psychological models of radicalization, and addresses their functional dependence on each other, highlighting the means (violence) ends (significance) relation that accounts for radicalization.

2.5.3 The Rational Actor Model

The third major approach to the radicalization process is the Rational Actor model. After scholars had reached consensus that there was not a psychopathology that predicted radicalization (Atran, 2003; Post et. al, 2009), the question then became whether the decision to radicalize was a calculated decision to reach desired sociopolitical goals. As a result, the Rational Actor model of extremism was derived from economics whereby a terrorist group seeks to maximize its expected utility by maximizing its scarce resources (Enders & Su, 2007). Thus, due to their limited resources, terrorist groups often resort to asymmetrical warfare tactics in order to maximize their impact against much more resourceful groups or nation-states. For example, research has indicated that suicide bombing campaigns have been effective in influencing political concessions from the state. Between 1983 and 2003 research shows that 7 out of 13 suicide bombing campaigns were effective in reaching strategic objectives (Pape, 2005). When analyzing the rational actor model, it is clear to see the rationality of terrorism from the organizational level, but many remain perplexed as to why an individual would sacrifice their life for the cause of a group. From an organizational perspective, the impact made from coordinating a suicide bombing attack may be worth the cost to the group. However, from the perspective of the individual, conducting the suicide bombing attack comes with the ultimate cost of sacrificing one's life. Therefore, it is difficult to understand why an individual would engage in such an attack without examining their motives and values. Why would someone be willing to risk their life for a cause? What need would they fulfill by so

doing? In order to explore these questions, Scott Atran and colleagues have explored the concept of sacred values.

2.5.4 Sacred Values

Atran and colleagues have demonstrated that individuals are motivated to engage in extremely costly forms of self-sacrifice in the defense of sacred values (Atran, Axelrod & Davis, 2007). Atran (2007) defines sacred values as, “non-negotiable preference whose defense compels action beyond evident reason ... regardless of risks or costs” (Atran & Sheikh, 2015). Sacred values can derive from religious ideological beliefs such as the values associated with Christianity, Judaism, or Islam. However, sacred values are not strictly religious in nature, they can also be grounded in secular ideology such as values associated with human rights, democracy, or communism. Atran’s research shows that devoted actors to a cause are often unwilling to accept tradeoffs that are material in nature at the expense of their sacred values. Often when approached with this type of concession, the individuals whose sacred values are at stake become even more willing to use extreme actions in defense of their values (Dehghani et al., 2010; Ginges, Atran, Medin, & Shikaki, 2007).

The question is why are individuals willing to risk all and sacrifice their lives in defense of sacred values. The 3N model answers this question by pointing to the individual’s need for significance. Serving and defending sacred values is what makes someone a worthy person especially if they are willing to undergo sacrifices in so doing. This demonstrates how important those values are to the individual which portrays them as ‘good’ worthy individuals worthy of respect.

From the perspective of the 3N model then, the motives and resulting behaviors of an individual are subjectively and momentarily rational (Kruglanski, Bélanger, & Gunaratna, 2019). The actions of any given individual constitute the best means (subjectively speaking) to reach a goal (Kruglanski & Orehek, 2009). As a result, the rational actor model is compatible with the 3N model. For example, a suicide bomber can gain significance (need) not only for their cause (network), but are often promised significance for their loved ones. While sacrificing oneself for a sacred cause may be irrational to outsiders, often for the individuals, it is a rational decision that is accompanied with the belief that upon completion of their actions they will be bestowed significance as a result of their martyrdom.

2.5.5 Social Network Theory

The fourth major approach to radicalization is the Social Network theory which is centered on the premise that radicalization and subsequent political action are related to interpersonal relationships and connections to others who have been radicalized (Dean, 2007; Ressler, 2006). The main analytic tool of social network theory is social network analysis rooted in the mathematical principles of graph theory (Harrary, 1969; Harrary & Norman, 1953). Its main assumption is that by investigating the nodes and density of a social network of which known terrorists are members, one can infer the inner workings and connections of a terrorist organization. Social network analysis shows that there has been a dramatic increase in political violence originating from small, informal, and dynamic groups rather than from large hierarchical organizations (McAllister, 2004; Raufer 2003; Sageman, 2004).

Sageman (2008) describes modern-day Islamic terrorism as largely driven by a “leaderless jihad” representing the shift towards decentralized homegrown Islamist terror organizations. In proposing a bottom-up process of radicalization, Sageman (2008) argues that radicalization of Islamist extremism is characterized by four stages that do not occur in any set sequence: a sense of moral outrage; outrage interpreted as a “war against Islam”; resonance of moral outrage with personal experience; mobilization through networks, resulting in further radicalization due to intra-group dynamics.

Social network theory and Sageman’s bottom-up process of radicalization highlight the network component of the 3N model. Implicitly, however, they hint at the remaining two aspects of the 3N model. The need aspect is implied in the moral outrage presumably related to a grievance or injustice that humiliated one and deprived one of significance. The ideological narrative then focuses the moral outrage that resulted from a significance loss as a war on Islam. Finally, the mobilization through networks highlights how one network can guide an individual to choose acts of extremism in order to restore one’s significance.

2.5.6 Social Movement Theory

The fifth, approach to radicalization is the Social Movement Theory. This approach is rooted in the notion that societies are characterized by an ebb and flow of conflicts and reforms that are shaped by conflict between groups that espouse opposing ideological beliefs (Kruglanski, Bélanger, & Gunaratna, 2019). Social movement theory defines social movements as, “networks of individuals and organizations that have common identities and conflictual aims and that use unconventional means”

(Della Porta, 2006; Della Porta, 2013). In proposing a model of radicalization within the framework of social movement theory, Della Porta (2013) discusses how onset factors foster radical violence and how persistence factors maintain radical violence. Onset factors are comprised of three mechanisms that lead to the use of radical violence and include the escalating of policing, competitive escalation, and the activation of a militant network. The escalation of policing occurs as violence develops in reaction to what is viewed as indiscriminate repression of protesters. This leads then to a competitive escalation in which violence develops both within and between social movements. Ultimately this results in the activation of a militant network where people are socialized into a violent cause. Then once the use of radical violence has begun, four persistence factors justify the use of violence. They are organizational compartmentalization, action militarization, ideological encapsulation, and militant enclosure. Organizational compartmentalization occurs when members of a group become more deeply embedded within an organization and are less influenced by outsiders. Action militarization occurs when the conflict reaches a tipping point and the organization validates the use of violence as a means of reaching their goals. Then ideological encapsulation occurs as ingroup members are championed as superiors while outgroup members are dehumanized. Finally, militant enclosure accounts for the bonds that group members share as they develop strong bonds and conform to the group.

As with the previous approaches to radicalization, there is considerable overlap between social movement theory and the 3N model of radicalization. The initial sense of grievance in the social movement theory accounts for the loss of significance which

is represented by the need component of the 3N model. The very notion of social movement exemplifies the *network* element and the escalating argument within the social movement exemplifies the *narrative* element responsible for the unfolding progression of the group to violence. The encapsulation specifically serves to isolate members of a network from competing narratives which increases members' embeddedness within and dependence on the group. The social movement theory conceptualizes the multilevel process of radicalization through an interplay of macro, meso, and micro factors (Kruglanski, Bélenger, & Gunaratna, 2019). It is through the interplay of these processes that individuals are radicalized by their social contexts.

The final approach to radicalization to be discussed is Berger's description of extremist movements as outlined in his 2018 book, *Extremism*. Berger argues that extremist movements share common elements that can be explained through the lens of social identity theory (Tajfel & Turner, 1979). Social identity theory's key assumption is that people categorize themselves and others as members of competing social groups. As such, an in-group is defined by individuals who share a common identity such as religious, racial, or national. An outgroup is defined as a group of people who are excluded from an in-group, that is they do not share a common identity with the group members. Berger (2018) states that an identity is "a set of qualities that are understood to make a person or group distinct from other persons or groups." Further, the distinction of an in-group and an out-group can represent a set of characteristics or values that makes a person or group distinct from other people or groups. An in-group is defined by three major elements: beliefs, traits, and practices (Berger, 2018). Beliefs are the shared creed of an in-group which is defined by values.

Traits are descriptive traits of the in-group and include physical, social, and spiritual characteristics. Practices define what in-group members do and outline expectations for how they are to behave.

According to Berger (2018), an in-group does not become extreme until it develops hostile views against a targeted out-group. An in-group will typically use a well-constructed narrative process to create an identity for the outgroup that parallels the identity of the in-group and sets it up as a threat to the in-group's survival. Leaders within a group typically portray ordinary problems with ordinary solutions as extraordinary problems with solutions that are so critical that failure to address them would lead to the downfall of the society if not properly addressed. Networks employ four different types of crisis narratives in order to motivate their members (Berger, 2018). The four types of narratives employed are Impurity, Conspiracy, Dystopia, and Existential Threat. Impurity narratives are those that highlight the corruption of in-group beliefs, practices, and traits. Conspiracy narratives focus on exposing the secretive actions of those outside of the in-group that seek to minimize the significance of the in-group. Dystopian narratives seek to place blame on out-groups for successfully orienting society in a manner that puts an important in-group at a disadvantage compared to other groups. Finally, existential threat narratives bolster the beliefs that out-groups threaten the very survival of an in-group.

As with the other models of radicalization, Berger's approach also has considerable overlap with the 3N model. At the core of his model are the roles that networks and narratives have in the radicalization process. According to Berger, the establishment of opposing networks is vital in the radicalization process. In order to

differentiate an in-group from an out-group, a network employs a variety of narrative types that fill both the epistemic and normative functions that initiate and maintain extreme behavior. The need component of the 3N model is emphasized in the four narrative types that network's employ. The underlying theme of Impurity, Conspiracy, Dystopia, and Existential Threat narratives are that an out-group is threatening the welfare and hence diminishing the significance of an in-group. These narratives not only contribute to but also maintain the sense of significance loss for members of a group. As a result, the narrative types can then reinforce how the value systems of an in-group (network) serve to guide an individual (via narratives) in choosing which behaviors will result in the restoration of the group's significance (need). In the right context, when the values of an important network are threatened, the resulting behavioral choice following a loss of significance or opportunity for significance gain might be one that is extreme in nature.

In summary, the topic of radicalization has been approached from a variety of perspectives. It is apparent that many of the seemingly diverse approaches share many common elements, some more subtle and implicit than others. The 3N model provides an integration of the various psychological models by addressing the role of individual needs, and the ideological narratives embraced by the network, that ultimately direct which means will members adopt to address their significance restoration goal (Kruglanski, Bélanger, & Gunaratna, 2019). The 3N approach to radicalization is a comprehensive approach that accounts for the vital aspects of the process by which an individual chooses to engage in violent extremism.

In order to understand this process better, however, the question arises how do the 3Ns interact to produce in individuals a willingness to make far-reaching sacrifices on the behalf of an important cause? Through four research studies I sought to address different aspects of such interaction.

Chapter 3: Present Research

The present research aimed to explore how the 3N model of radicalization (Kruglanski et. al., 2009; 2013 et. al.; 2014 et. al.; 2017 et. al.; Kruglanski, Bélanger, & Gunaratna, 2019) accounts for a willingness to sacrifice, presently considered a defining feature of motivational imbalance that drives extremism. According to Atran (2015), defense of sacred values that are tied to an important cause or group bestows personal significance. As a result, under the right conditions, people become willing to sacrifice or neglect their basic needs in service of a cause that is very important to them. In order to understand what leads to a willingness to sacrifice, each of the 3N's (needs, networks, and narratives) will be analyzed to better understand how they interact with one another in the radicalization process. Four studies have been designed in order to investigate how needs, networks, and narratives influence individuals and instill in them, under specific circumstances, the willingness to make a sacrifice for a cause.

The first study aimed to explore the relationships between the need for significance and several value-affording sources. As noted earlier, for an individual to have significance is to be valued by society; that is attained by acting in ways that uphold or support important values. Therefore, I anticipated there to be positive relationships between individuals' need for significance and their attention to value-affording sources such as ideological orientation, moral foundations, and self-sacrifice.

Next in the second study, I manipulated an individual's sense of significance in different ways in order to understand how it can influence their willingness to self-sacrifice. Previous empirical studies on the 3N models have successfully manipulated significance loss (Molinario et. al., 2017), yet there has been no work thus far that has

shown that opportunity for significance gain can impact the willingness to make sacrifices for a cause. According to the 3N model of radicalization, the incentivization of significance can offer an individual an opportunity to enhance or boost their significance by acting in ways that are valued and admired by their network. Therefore, an opportunity to sacrifice in the defense of a network's values may afford people an opportunity to enhance their significance. To address this gap, Study 2 manipulated the significance quest via both loss and gain inductions in order to examine how it can influence a willingness to undergo a sacrifice for an important cause. Additionally, Regulatory Focus Theory (Higgins, 1997) discussed earlier argues that people approach their goals via two distinct orientations, prevention focus or promotion focus. As such, I investigated the extent that prevention and promotion focus moderate the relationship between loss and gain of significance and a willingness to sacrifice for a cause. I anticipated that people who are prevention-focused will be more willing to sacrifice when experiencing a loss of significance and that promotion-focused people would be more willing to sacrifice when presented with an opportunity for significance gain.

The third study examined the network component of the 3N model and examined how networks mediate the relationship between the need for significance and the willingness to sacrifice for a cause. Building on the design of Study 2, a network manipulation (Appendix H) was added in order to examine the extent to which the saliency of a network that an individual values might influence their willingness to make a sacrifice. I anticipated that exposure to a valued network would increase an individual's likelihood of sacrifice.

Finally, the fourth study was identical in its design to the third study except that the network component of the 3N model was replaced with the narrative component. Specifically, I investigated the impact that valued narratives can have on an individual's willingness to self-sacrifice following a loss of significance or the opportunity for significance gain.

Chapter 4: Study 1

4.1 Overview

A correlational study examined the relationship between the need for significance and both value affording sources and the willingness to self-sacrifice. As discussed previously, for one to feel significant one must feel valued by society. As a result, people seek to act in ways or uphold beliefs, that result in their being valued by those in their social milieu. Therefore, understanding the relationships between value affording sources and the need for significance can help identify important trigger points that might push someone towards a willingness to sacrifice on behalf of an important cause, especially when their need of significance is deprived (via significance loss) or incentivized (via opportunity for a significance gain).

In order to examine the aforementioned relationships, I conducted a study in which participants completed a survey comprised of six scales. First, participants completed the Quest for Significance scale (Molinario et al., 2020) (Appendix A) to assess the strength of individuals' need for significance. Next, participants completed the Ideological Consistency Scale (Pew, 2014) (Appendix B) comprising a measure of the extent to which individuals embrace liberal or conservative views across a range of differing political value dimensions. To assess moral reasoning, participants completed the Moral Foundations Questionnaire (Graham, Haidt, & Nosek, 2008) (Appendix C). Then, participants completed a modified Self-Sacrifice Scale (Bélanger, Caouette, Sharvit, & Dugas, 2014) (Appendix D) to determine the likelihood that an individual is willing to make sacrifices either in support of a cause that is important to them or on

behalf of their close friends. After completing the foregoing scales, participants completed the Internal Locus of Control scale (Rotter, 1966) (Appendix E) and the Self-Monitoring scale (Snyder, 1974) (Appendix F) to provide measures of discriminant validity.

I predicted that an individual's quest for significance would be positively correlated with value affording sources and a willingness to self-sacrifice (Hypothesis 1.1). More specifically, I hypothesized that the Quest for Significance would be positively correlated with Ideological Consistency such that when individuals have a higher need for significance they will hold more polarized liberal or conservative views. Additionally, I hypothesized that the need for significance would also be positively correlated with a person's moral foundations such that scores on the five moral foundations of harm, fairness, loyalty, authority, and purity will be higher for individuals who have higher average scores on the Quest for Significance Scale. Also, I predicted that individuals with a higher need for significance would also have higher scores on their most important moral foundation. Finally, I predicted that there would be a positive relationship between the need for significance and the willingness to sacrifice as measured by the self-sacrifice scale. In order to examine discriminant validity, I predicted that the quest for significance would have no significant relationship with a person's locus of control or with self-monitoring. (See Appendix G for a complete table of all hypotheses).

4.2 Participants

I conducted a power analysis to determine that a total of 85 participants were needed for the study in order to achieve an alpha of .05, a beta of .2, and an expected

correlation of .3 (Hulley, et. al., 2013). Thus, a total of 85 participants were recruited via Amazon Mechanical Turk (mTurk) and were compensated \$2 for their participation in the study. All data for the study was collected via Qualtrics online. Participants signed an informed consent online and were treated in accordance with APA guidelines.

In the course of cleaning the data, 4 participants' data were dropped as they failed to correctly answer attention check items. Of the remaining 81 participants, 53 were male and 28 were female. The average age of participants was 35.33 (SD = 10.59). In terms of ethnicity, 53 participants were White, 3 Hispanic, 10 Black, 2 Native American and 13 Asian/Pacific Islander. The vast majority of participants' SES were from lower-middle to middle-income groups. Participants reported being religiously moderate with an average self-report score of 3.97 (SD = 1.80) on a 1-7 Likert scale. The participants were also rather well educated, most having completed some form of higher education. Finally, the results of the 10-item ideological consistency scale (Pew, 2014) show that the participant panel skewed toward the liberal end of the liberal-conservative dimension. Of the 81 participants, 50 scored within the liberal range (-2 to -10), 11 were moderate with a score of zero, and 20 scored within the conservative range (2 to 10). Their average index score for the scale was -2.70 (SD = 4.73) which identifies them as mostly liberal.

4.3 Design

A correlational design was used to assess the relationships between the need for significance and ideological consistency, moral foundations, and the willingness to self-sacrifice. The study contained six variables of interest. The first was the need for

significance tapped by the Quest for Significance scale. The second was the strength of individuals' ideological orientation as measured by the Ideological Consistency scale (Pew, 2014)). The third was the measure of moral foundations comprising five dimensions, namely of harm, fairness, loyalty, authority, and purity according (Graham, Haidt, & Nosek, 2008; Graham et al., 2011). Finally, the willingness to self-sacrifice was indexed by the average response on the self-sacrifice scale. I used a modified version of the self-sacrifice scale in which participants twice filled out the self-sacrifice scale, once in relation to sacrificing for a cause and again in regards to sacrificing for close friends. . This version of the scale measured the willingness to sacrifice both for an important cause and also on the behalf of close friends. The four variables just described were used to examine the extent to which a high need for significance is correlated with ideological orientation, moral foundations, and the willingness to self-sacrifice.

In order to add measures of discriminant validity, participants completed both the internal locus of control scale (Rotter, 1966) and the self-monitoring scale (Snyder, 1974). I did not expect the need for significance to exhibit significant relations with either of these scales.

4.4 Procedure

Participants first completed a modified Quest for Significance scale (Molinario et al., 2020) via a 12-item questionnaire designed for this purpose. The scale contains statements such as “I desire to be respected by other people” and “I have a strong need to do something meaningful with my life”. Participants rated the extent to which they

agree or disagree with statements regarding their desire for significance using a 1-7 Likert scale.

Next participants were presented with five separate scales in a randomized order to control for order effects. Specifically, they completed the 10-question Ideological Consistency Scale (Pew, 2014). This scale featured 10 pairs of statements comprised of one liberal statement and one conservative statement. Participants were presented the pairs of statements and asked to choose which of the following statements comes closest to their view. For example, one such pair might use the following statement to represent a conservative position, “Immigrants today are a burden on our country because they take our jobs, housing, and health care”. The item representing the liberal position might be, “Immigrants today strengthen our country because of their hard work and talents”. Responses to each item pair were coded such that the selection of the liberal statement were coded as -1, whereas that of the conservative statement was coded as 1. Then responses from all ten-item pairs were then summed to create a final measure of ideological consistency.

Additionally, participants completed the 30-item Moral Foundations Questionnaire (MFQ30) (Graham, Haidt, & Nosek, 2008). This questionnaire first asked participants to rate 15 items according to the relevance of certain considerations to making decisions whether something is right or wrong. Examples of the first 15 items include rating the relevance of statements such as “whether or not someone violated the standards of purity and decency” and “whether or not someone did something to betray his or her group”. Using a 0-5 Likert scale, participants indicated their perceived relevance of each item on a continuum ranging from ‘not at all relevant’

to ‘very relevant’. Next, participants were presented with additional 15 items and were asked to rate the extent to which they agreed or disagreed with various statements such as, “justice is the most important requirement for society” and “it can never be right to kill a human being”. Responses to these 15 items were recorded using a 0-5 Likert scale that captured participants’ agreements and disagreements with the statements they saw.

Following the completion of the MFQ30, scores were calculated to represent each participant’s standing on each of the five moral foundations. Scores for each dimension were calculated by averaging the six items that corresponded to the respective dimensions of harm, fairness, loyalty, authority, and purity (Graham, Haidt, & Nosek, 2008).

Participants also completed the modified Self-Sacrifice Scale (Bélanger, Caouette, Sharvit, & Dugas, 2014). The scale was modified to reflect a willingness to both sacrifice for a cause and sacrifice for one’s friends. Participants were first asked to identify a cause that is very important to them. Then they were asked to think about that cause and rate the extent to which they agree with various pertinent statements such as, “It is senseless to sacrifice one’s life for a cause” and “I would be willing to give away all of my belongings to support my close friends”.

I also administered to participants the Internal Locus of Control scale. This 29-item scale presents pairs of statements to participants and asks them to select which statement they agreed with most. For example, participants might have seen the following statements “One of the major reasons why we have wars is because people don’t take enough interest in politics. ” or “There will always be wars no matter how hard people try to prevent them”. Participants were then asked to select which statement

they agreed with the most. Participants with higher scores on the scale were classified as having an external locus of control, while lower scores represented people with internal locus of control.

Finally, the Self-monitoring scale was used to assess how people employ impression management strategies in social interactions. The 25-item scale presented participants with 25 statements such as “In a group of people I am rarely the center of attention”. Participants were then asked to indicate whether the statement was true or false. High scores on the scale indicated a person is a high self-monitor and low scores identified low self-monitors.

4.5 Results

As the quest for significance scale had not been validated by the time of data collection (see Molinario et al., 2020, for a validated measure of quest for significance), an exploratory factor analysis was conducted to examine the unifactorial structure of the scale. An initial principle component analysis yielded a two-factor solution for the quest for significance items. Next, an EFA with Oblimin rotation method and Kaiser normalization was performed. Of the two factors extracted, the first factor explained 50.84% of the variance of the quest for significance, the second added 13.72%. The first factor, labelled Quest for significance, resulted in nine items (factor loadings between .78 and .80) capturing the desire for being socially recognized (e.g., “I wish I could be more respected”). The second factor, labelled “Ambition”, was composed of three items (factor loadings between .68 and .70) capturing the items pertaining to achievement and life goals (e.g., “I would like to achieve a lot”). The two factors were moderately correlated ($r(81) = .31, p = .004$) suggesting that although related, the two

factors capture distinct constructs. For the purposes of this study, only the first factor was retained. The reliability analysis results provided a high alpha for the nine items retained ($\alpha = .94$; $M = 4.78$, $SD = 1.42$).

A complete correlation table for each of the measures used in Study 1, as well as their means and standard deviations, are available in table 4.2.

I first examined the relationship between the need for significance and a willingness to self-sacrifice. The Quest for Significance scale consisted of 9 items ($\alpha = .94$) and the self-sacrifice scale consisted of 10 items ($\alpha = .70$). As predicted, a Pearson correlation found that a positive relationship does exist between the two ($r(81) = .22$, $p = .045$). In other words, as the need or desire for significance increases, people are more willing to engage in self-sacrificial behaviors.

Next, I examined the relationships between the need for significance and the value affording sources. The first value-affording source that I examined was an individual's ideological orientation which is a measure of the extent to which a person self-identifies as a liberal or a conservative. The ideological consistency scale was found to be reasonably reliable (10 items; $\alpha = .68$). In order to examine the relationship between significance and ideological orientation, I transformed the results of the Ideological Consistency scale (Pew, 2014) using the absolute value of a participant's ideological orientation. To accomplish this, all scores were transformed using an absolute value of their ideological orientation ranging from 0 (moderate ideology) to 10 (extreme ideology). After transforming the ideological consistency scores, I examined the relationship between the need for significance and ideological orientation. Counter to my prediction that a higher need for significance would be

related to more extreme political ideology, a Pearson correlation shows that the need for significance is negatively correlated to an individual's ideological orientation ($r(82) = -.27, p = .015$). This result suggests that those who are more politically *moderate* tend to have higher need for significance than individuals who are more extreme in their political views. I further examined the liberal and conservative participants and found that the need for significance was negatively correlated ($r(50) = -.178, p = .216$) with participants who were liberals (i.e. those who had ideological consistency scores ranging from -2 to -10), meaning that one becomes more extreme in their liberal views the less they have a desire for significance. Additionally, participants who were conservatives (i.e. those whose ideological consistency scores ranged from 2 to 10) were also negatively correlated with the desire for significance ($r(20) = -.598, p = .005$). It is important to note that distribution of liberals and conservatives in the sample were quite small and caution should be taken when drawing conclusions from the analysis on the liberal and conservative participants with regard to their relationships with the desire for significance.

The next value affording source that was examined was a person's moral foundations as measured by the Moral Foundation Questionnaire (Graham, Haidt, & Nosek, 2008). The ideological consistency scale was found to be reliable (10 items; $\alpha = .86$). In order to examine the relationship between moral foundations and the need for significance, scores were calculated to determine participants' scores on the five moral foundations (Harm, Fairness, Loyalty, Authority, and Purity). The results show support for my hypotheses on two of the five dimensions. Specifically, a Pearson correlation revealed that the dimension of Harm was found to be positively correlated with the

need for significance ($r(80) = .27, p = .012$). Also, the dimension of Fairness had a positive relationship with the need for significance ($r(80) = .25, p = .026$). No relationship was observed between the need for significance and the remaining three moral foundations of Loyalty ($r(80) = .16, p = .136$), Authority ($r(80) = .13, p = .430$), and Purity ($r(80) = .15, p = .174$). Next, I assessed the relationship between an individual's score on their highest-ranked moral foundation score and their need for significance. In order to assess this relationship, I created a variable that consisted of the highest raw moral foundation score for each participant. Then I used a Pearson correlation to examine this relationship. The data show that a person's most important moral foundation was positively correlated with their need for significance ($r(79) = .26, p = .020$).

Next, the relationship between the need for significance and an internal locus of control was examined to assess a measure of discriminant validity. The Cronbach alpha for the 29 items on the Locus of Control scale was .71. I predicted that there would be no relationship between an individual's need for significance and their internal locus of control as the two scales measure unrelated constructs. As was predicted, a Pearson correlation revealed that there is no relationship between a need for significance and an internal locus of control ($r(78) = .22, p = .056$).

Finally, a second assessment of discriminant validity was conducted. It was assumed that the self-monitoring scale and the quest for significance scale were unrelated. The Cronbach alpha for the 25 items on the Self-Monitoring scale was acceptable at .70. Despite the prediction that self-monitoring is not related to the construct of the desire for significance, a Pearson correlation revealed a positive

relationship between the two ($r(75) = .25, p = .027$). These results were counter to my prediction that there would be no relationship between a need for significance and self-monitoring. It appears that those who have a higher need for significance tend to self-monitor more than those with a lower need for significance.

Table 4.1

Summary of Exploratory Factor Analysis Results for Quest for Significance Scale

Item	Factor Loadings	
	Need for Significance	Ambition
I wish I could be more respected	.80	-.09
I wish I meant more to other people	.80	-.08
I wish other people thought I was significant	.85	-.07
I wish I was more appreciated by other people	.73	-.22
I want people to care more about me	.83	-.19
I want to be more valued by people who are important to me	.81	-.25
I want to be valued more by society	.81	.05
I wish other people accepted me more	.77	-.10
I have a strong need to be appreciated by other people	.78	.04
I would like to achieve a lot	.38	.70
I am an ambitious person	.31	.71
I would like to go places in life	.34	.68
Eigenvalues	6.10	1.64
% of variance	50.84	13.72

Note: Factor loadings over .40 appear in bold.

Table 4.2

Inter-correlations and descriptive statistics for all variables in Study 1

	QFS	Self Sac	Ideo	Hrm	Fair	Loy	Auth	Pur	Str	LC	Slf Mon
QfS	-										
Self- Sac	.22*	-									
Ideo Orien	-.27*	-.24*	-								
Harm	.27*	.16	.07	-							
Fair	.25*	.13	.02	.70**	-						
Loyal	.16	.51**	.05	.05	.05	-					
Auth	.13	.34**	.12	.12	.05	.64**	-				
Purity	.15	.42**	.28*	.28**	.25*	.65**	.67**	-			
Strng Moral Foun	.27*	.23*	.09	.82**	.73**	.10	.21	.29**	-		
Intern Locus Cntrl	.22	-.16	.13	.06	.09	-.26*	-.24*	-.22*	-.01	-	
Self- Mon	.22*	.34**	-.2*	.00	-.01	.24*	.12	.12	-.09	.11	-
<i>Mean</i>	4.78	4.64	-2.3	4.53	4.54	3.73	3.97	3.76	4.9	13.1	14.6
<i>SD</i>	1.42	.80	4.66	.85	.85	1.01	.95	1.20	.63	3.85	3.83

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

4.6 Discussion

Study 1 sought to establish a connection with the 3Ns as they relate to ideological extremism. The results of study 1 supported my basic prediction that the need for significance is positively correlated with both the willingness to self-sacrifice and value affording sources. The data show that participants with a higher desire for significance were more likely to engage in self-sacrificial behaviors on behalf of an important cause or on behalf of their close friends. As a result, it is likely the participants view self-sacrificial behaviors as a means by which a person can be significant. This relationship between the desire for significance and the willingness to self-sacrifice reinforces the notion that the need for significance may serve as a motivator of extreme behaviors.

Next, I examined relationships of value affording sources and the need for significance. Surprisingly, counter to my prediction the data show that participants who were more moderate in their political orientation had a stronger desire for significance than those who were more ideologically extreme. When examining this finding closer, there was no significant relationship between liberals and the desire for significance, but there was a negative relationship between conservatives and the need for significance. It appeared that as the participants held more extreme conservative views their desire for significance was lower than those who were more moderate. Caution must be exercised when drawing conclusions from this finding as the number of conservatives in the panel were quite low. But it is possible that conservatives have a greater commitment to their ideology than do liberals, and this gives them a sense of significance. Prior research (Jost et al., 2003) attests that conservatives are higher on

the need for closure than liberals, and the need for closure is related to commitment. Additionally, when further examining political orientation, a majority of the participants in the present study were more liberal than conservative. Consistent with that finding, the data also show a positive relationship between the need for significance and the moral foundations of harm and fairness. Given that the ideological orientation of the participants skewed toward the liberal end of the continuum, it is unsurprising that there was a relationship between the need for significance and the moral foundations of harm and fairness as those two foundations are typically more sensitive for liberals than for conservatives (Haidt, 2012).

Additionally, I found that a positive relationship existed between a person's strongest moral foundation and the need for significance. This finding importantly highlights the connection between one's desire for significance and the endorsement of a networks' values. People attain significance by acting in ways in a manner that supports or upholds the values of their network. As a result, by acting in ways that are consistent with a strong moral foundation it is likely that people can elevate their significance. This is also consistent with the finding that participants' need for significance was correlated with moderation, as the moderate narrative may be the ideological narrative to which liberals subscribe. This finding implies that a person's significance may be derived by holding beliefs or acting in ways that are in concert with one's moral beliefs. Overall, the results from study 1 reinforce the notion that there is a link between the need for significance and value affording sources, consistent with the hypothesis of the present research.

A comment is in order concerning the significant correlation between the need for significance and self-monitoring, and a near significant correlation between the need for significance and internal locus of control. While, I included those measures in order to test the discriminant validity of the need for significance scale and expected non-significant relations with those two measures, on further thought their choice may have been unfortunate. Indeed, it seems plausible that individuals with a strong need for significance closely monitor their social environment for personal feedback, hence they should score high on a measure of self-monitoring. It is also possible that ambitious persons with a high quest for significance are characterized by an internal locus of control. Admittedly though, the present findings do not effectively rule out the possibility that the obtained correlations reflect method variance at least to some extent. This concern is somewhat mitigated by the absence of significant relations between the need for significance and three of the five moral dimensions, to which liberals generally do not subscribe.

While these results are promising on the whole, their correlational nature raises concerns as to their causal implications. To address these concerns, I conducted three additional studies of experimental nature designed to examine how each of the 3N's contributes to the willingness to self-sacrifice.

Chapter 5: Study 2

5.1 Overview

The second study expanded upon the correlational design of study 1 by examining how a manipulation of the need for significance via loss or gain can impact the willingness to engage in extreme behaviors. Study 1 demonstrated that the need for significance is related to various sources of value that afford people significance. It becomes important then to understand how the need for significance can influence a tendency to engage in extreme behaviors. Therefore, the goal of Study 2 was to identify whether and to what extent people might be willing to sacrifice for an important cause, their friends, or their time after experiencing a loss of significance or an opportunity for significance gain. It was predicted that when people experience a loss of significance they will be more willing to engage in extreme behaviors (Hypothesis 2.1a) Additionally, I predicted that when people experience an opportunity for significance gain they would also be more willing to engage in extreme behaviors (Hypothesis 2.1b).

An added objective of the present study was to explore the possibility that the relation between individuals' need for significance and the willingness to sacrifice, is moderated by regulatory focus orientation (Higgins, 1999). As people approach goals from differing orientations it was expected that they will have different responses to significance loss and gain depending on whether they are focused more on prevention or promotion. Therefore, I predicted that the willingness to engage in extreme behaviors following a significance loss or gain would be moderated by an individual's

regulatory focus orientation (Hypothesis 2.2). Specifically, I anticipated that individuals who were exposed to significance loss and are more prevention (vs. promotion) focused would be more willing to self-sacrifice for an important cause, for their friends, or their time compared to individuals who were more promotion (vs. prevention) focused.

5.2 Participants

I conducted a power analysis to determine that a total of 210 participants will be needed in order to achieve in this study a medium effect size ($f = .25$) (Cohen, 1988) and a power of 0.8. Given the design of the study and concerns for sufficiently powering predicted interactions, participants were oversampled to ensure adequate power. Therefore, a total of 362 participants were recruited via mTurk for participation in the study. A significant number of participants failed to adequately complete the writing tasks or properly pass attention checks. As a result, 68 of the respondent's data were excluded from the analysis. When checking for selection effects amongst the excluded data, there did not appear to be any significant differences in major demographics when compared to the main sample. Of the 68 dropped participants, 55 were male, 27 were female, and 2 identified as gender non-binary. Their average age was 37.09 ($SD = 9.91$). The ethnicity of the group also mirrored the main panel with 55 being white, 2 Hispanic, 4 Black, 1 Native American, and 6 Asian or Pacific Islanders. The group however did report being more religious $M = 5.66$ ($SD = 1.5$) and politically conservative $M = 5.72$ ($SD = 1.6$). However, after inspecting the data, it appears there was not a selection effect amongst the dropped data. A vast majority were excluded from analysis for failing to follow the instructions for the writing tasks during

the experimental manipulations. Therefore, after cleaning the data, a total of 294 responses from participants were used for data analysis.

The sample consisted of 185 men and 104 women. An additional 5 participants identified as either gender non-binary or preferred not to disclose their gender. The mean age of participants was 37.19 (SD = 27.98). Regarding ethnicity, the demographics of the sample are as follows: 227 were White, 22 Latino, 23 Black, 4 Native American, 16 Asian/Pacific Islander, and 2 Other. The sample was well educated, with most participants having completed at minimum a 2-year college degree. When asked how religious the participants were, the sample's average response moderate with an average of 3.79 (SD = 2.22) on a 1-7 Likert scale. Finally, when asked to identify their political views from extremely liberal to extremely conservative, the average response was 3.97 (SD = 1.91) on a 1-7 Likert scale, indicating that the majority of the participants were politically moderate.

Participants were compensated via mTurk in return for their time. All data for the study was collected via Qualtrics online. Finally, all participants signed an electronic informed consent form and were treated in accordance with APA guidelines.

5.3 Design

The present study was designed to assess how regulatory focus orientation might moderate the relationship between the need for significance and a willingness to engage in extreme behaviors. This study contained two independent variables. The first was the need for significance which was represented by three experimental conditions, loss, gain, or control. The second independent variable was regulatory focus orientation, namely either promotion or prevention focus (Higgins, 1998). I used the

RFQ scoring key (Higgins et. al., 2001) to create an index score that represents a participant's orientation towards prevention or promotion. Following the methodology used by Higgins (2001) regulatory focus orientation was calculated by subtracting the mean scores of the prevention- related items from the mean scores of the promotion-related items. As a result, the RFQ index score provides a single continuous measure, with positive numbers indicating a promotion focus and negative numbers indicating prevention focus. (Cesario & Higgins, 2008; Molden, & Higgins, 2004; Camacho, Higgins, & Luger, 2003). The dependent variable of interest in this study was an individuals' willingness to self-sacrifice on behalf of an important cause or for their friends and was measured via the modified Self-Sacrifice Scale (Bélanger, Caouette, Sharvit, & Dugas, 2014). Index scores were created to represent the average response representing the likelihood that a participant was willing to sacrifice either for a cause or for their friends. Additionally, a willingness to participate in a future study was used as a dependent variable.

5.4 Procedure

Participants began by completing a short questionnaire in order to identify their regulatory focus orientation (prevention or promotion) via the 11-item Regulatory Focus Questionnaire (Higgins, et. al 2001). The 11 items asked participants to identify the frequency in which particular events have occurred in their life. Examples of items in the scale include: "Compared to most people, are you typically unable to get what you want out of life?" and "How often did you obey rules and regulations that were established by your parents?". Participants indicated their responses on a 1-5 Likert scale.

Following the completion of the Regulatory Focus Questionnaire, participants were randomly assigned to one of three need for significance conditions. In the significance loss condition, participants were asked to write a short paragraph about a time in which they felt humiliated or ashamed. In the significance gain condition, participants were asked to write about a hero whom they admire, a person who inspires and motivates them. Finally, in the control condition participants were asked to write about the last television show or movie that they watched. After the manipulation of the need for significance, participants completed a 12-item manipulation check scale to assess the impact that the manipulation of significance loss or gain. The manipulation check featured items that ask participants to rate how they felt during the writing task. Sample items included: “I felt confused”, “I felt insignificant” and “I felt like a person of worth”.

Participants then completed the modified self-sacrifice scale used in Study 1 to measure their willingness to make sacrifices on behalf of an important cause and on behalf of their close friends. Finally, participants were asked to identify whether or not they would be willing to participate in a future study on social causes. This provided a measure of the participants’ willingness to sacrifice their time to support research on social causes.

After completing the experimental portion of the study, participants reported demographic information such as age, race, gender, religion, and political orientation. Finally, at the conclusion of the study, participants were debriefed and the purpose of the study was explained to them.

5.5 Results

Significance Gain Pilot Study

In order to pretest the experimental manipulation of significance gain 120 participants were recruited via Amazon's Mechanical Turk to participate in a pilot study. The goal of the pilot study was to confirm that an experimental manipulation of significance gain via a writing task would be suitable to use in order to prime significance incentivization. I predicted that participants who were exposed to a manipulation of significance gain via a writing task would have a higher desire for significance than those whose need for significance was not manipulated.

The study contained one independent variable which was the need for significance consisting of four conditions, gain hero, gain accomplishment, loss, and control. The need for significance was manipulated with a short writing task (Appendix G). The dependent variable of interest was an index score representing a participant's desire for significance which was measured with the 12-item Quest for Significance Scale (Molinario et al., 2020).

To begin, participants were randomly assigned to one of four need for significance conditions, gain hero, gain accomplishment, loss, or control and asked to complete a short writing task. In the significance gain hero condition, participants were asked to name a personal hero or someone who inspires them. Then they were instructed to write a short paragraph in which they were instructed, "While imagining this person, please write a paragraph that provides a detailed description of why this person inspires you and how they influence your hopes and aspirations. Specifically describe how they influence your goals." For the gain accomplishment condition, participants were

instructed to “imagine you are given an opportunity in which you can achieve individual greatness, but it will require extraordinary dedication and perseverance. If you succeed, you will be viewed as a role model in your community. Someone who is highly valued and worthy of praise and honor”. In the loss condition, participants were asked to a short paragraph describing a time in which they had been humiliated or ashamed. In the control condition, participants were instructed to think back to the last time that they watched a television show or a movie and describe what they watched.

Following the writing task, participants then completed an intermediary task in which they described their morning routine. They were instructed to write a brief paragraph in which they explain what they typically do for the first 30 minutes after they wake up each day.

After the intermediary task, the participants then completed the 12-item Quest for Significance Scale (Molinario et al., 2020) to assess their desire for significance (Appendix A).

A one-way ANOVA revealed no significant differences between groups ($F(3,116) = .704, p = .552$). Further, a Tukey post hoc test was used and also confirmed that there were no significance differences between the significance gain accomplishment ($M = 4.25; SD = 1.24$), significance gain hero ($M = 4.78; SD = 1.24$), significance loss ($M = 4.60; SD = 1.41$), or control groups ($M = 4.47; SD = 1.46$).

After an unsuccessful first attempt at pilot testing the need for significance manipulation, a second pilot test was run in which 90 participants were recruited via Amazon MTurk. In the second pilot study, the significance gain accomplishment condition was dropped as it was less effective than the significance gain hero condition.

As a result, the second pilot study contained 3 conditions, significance gain hero, significance loss, and control. The procedures followed those used in the first pilot study. Participants were first assigned to one of three need for significance conditions (gain hero, loss, or control). Then after the writing task they completed an intermediary task describing their morning routine, and finally completed the 12-item QfS scale.

The data show that there was a statistically significant difference between significance manipulation groups as determined by one-way ANOVA ($F(2,87) = 3.532, p = .034, \eta^2 = .076$). In order to examine difference between groups, a Tukey post hoc test was used. The results from the post hoc test revealed that participants in the significance gain condition had a significantly higher desire for significance ($M = 4.65; SD = .92$) than those in the control condition ($M = 4.10; SD = 1.17$) at $p < .05$. Additionally, those in the loss condition ($M = 5.06; SD = 1.12$) also had a significantly higher quest for significance than those in the control condition ($M = 4.10; SD = 1.17$) at $p < .05$.

The results of the pilot study confirm that manipulation of the need for significance both through incentivization and deprivation increase an individual's desire for significance. The experimental manipulation of the need for significance via loss and gain should be useful in priming opportunity for significance gain in future experimental studies.

Correlations and Descriptive Statistics

The complete correlation table for each of the measures in Study 2, as well as their means and standard deviations, are available in table 5.1

A Pearson correlation found a significant relationship between regulatory focus orientation and the willingness to self-sacrifice ($r(294) = .205, p = .001$), suggesting that people who are promotion-focused are more likely sacrifice for a cause. There was also a significant correlation between regulatory focus orientation and a willingness to sacrifice for friends ($r(294) = .136, p = .035$), suggesting a positive relationship exists between promotion-focused individuals and a willingness to sacrifice for friends.

Table 5.1

Inter-correlations and descriptive statistics for all variables in Study 2

	RFO	Self-Sac Cause	Self-Sac Friends	Future Study
Regulatory Focus Orientation	-			
Self-Sacrifice Cause	.205**	-		
Self-Sacrifice Friends	.136*	.702***	-	
Future Study	.039	.167**	.281**	-
<i>Mean</i>	.227	5.45	5.42	3.97
<i>SD</i>	.852	.784	.750	1.176

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Additionally, a Pearson correlation found a positive relationship between the willingness to sacrifice for a cause and a willingness to sacrifice for friends ($r(294) = .702, p < .001$), indicating that those who are likely to sacrifice for a cause are also very likely to do the same for friends. A Pearson correlation also found positive relationships between the willingness to sacrifice for a cause and the willingness to participate in a future study ($r(294) = .167, p < .001$).

Regarding a willingness to sacrifice for friends, a Pearson correlation found a positive relationship between sacrificing for one's friends and the likelihood of participating in a future study ($r(294) = .281, p < .001$).

Manipulation Check

An independent samples t-test was used to assess the effectiveness of the significance loss manipulation. In order to assess the effectiveness of significance loss an index score was created that represented the items on the manipulation check that pertained to feelings of loss (i.e. worthless, humiliated, etc.). Results show that participants in the loss condition ($M = 3.75, SD = 1.73$) compared to the control condition ($M = 2.68, SD = 1.71$) felt considerably less significant during the writing task, $t(195) = 2.424, p < .037$. Participants who wrote about an embarrassing or humiliating time in their lives felt considerably more worthless, humiliated, and treated with less dignity than those in the control condition.

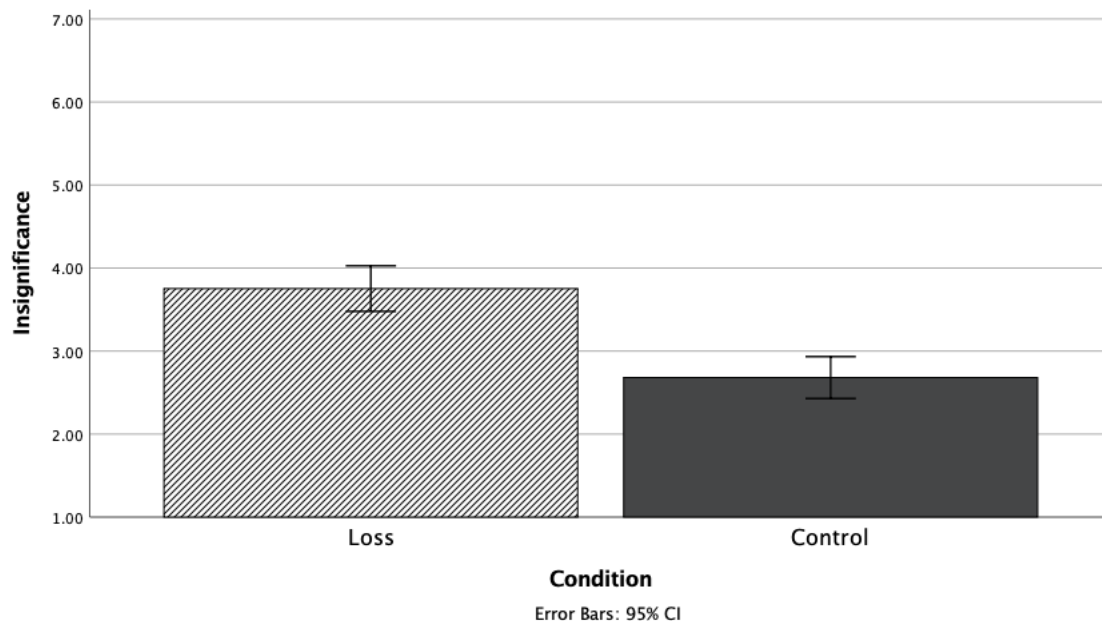


Figure 3.1
Significance Loss Manipulation Check

An independent samples t-test was also used to gauge the effectiveness of the significance gain manipulation. To test the effectiveness of the significance gain manipulation an index score was created that represented the average of the items that pertained to feelings of significance (i.e. important, proud, etc.) contained in the manipulation check. The data show that participants in the gain condition ($M = 4.80$, $SD = 1.23$) compared to those in the control condition ($M = 4.59$, $SD = 1.45$) did feel considerably more significant during the experimental writing task, $t(194) = 2.527$, $p = .023$. Participants who wrote about a personal hero and how that person inspires and motivates them felt considerably more important, proud, honored, and hopeful when compared to participants in the control condition.

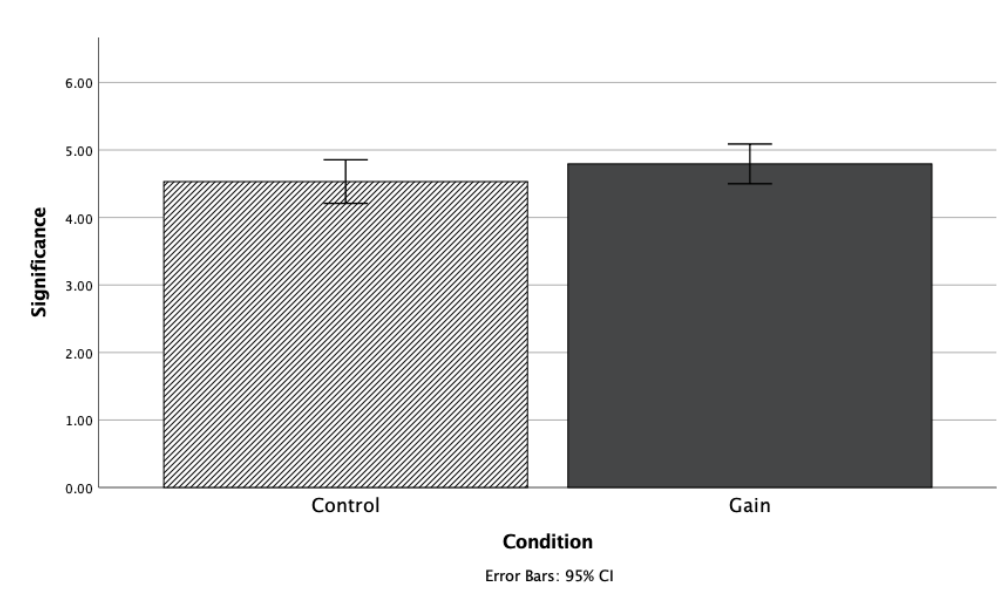


Figure 3.2
Significance Gain Manipulation Check

Self-Sacrifice for a Cause

Self-sacrifice for a cause was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, and a product term representing their interactions. Analysis of main effects show that there was no main effect for significance loss ($b = .038, t = .307, p = .759$) or significance gain ($b = -.092, t = .765, p = .445$) on the willingness to sacrifice for a cause. There was a significant main effect of regulatory focus orientation on the willingness to self-sacrifice for a cause ($b = .180, t = 3.481, p = .001$). This indicates that individuals with a promotion focus are more willing to sacrifice for a cause than those with a prevention focus. The interaction between significance gain and regulatory focus orientation was significant ($b = .403, t = 3.039, p = .003$) indicating that participants who were in the significance gain

condition and were promotion focused rather than prevention focused were more willing to sacrifice for a cause compared to those in the control condition. The interaction between significance loss and regulatory focus orientation was not significant ($b = .025$, $t = .125$, $p = .861$).

Finally, the interaction between the need for significance and regulatory focus orientation did explain a significant proportion of variance of the willingness to sacrifice for a cause, $R^2 = .08$, $F(5, 237) = 4.304$, $p < .001$. Observed values are plotted in figure 3.3.

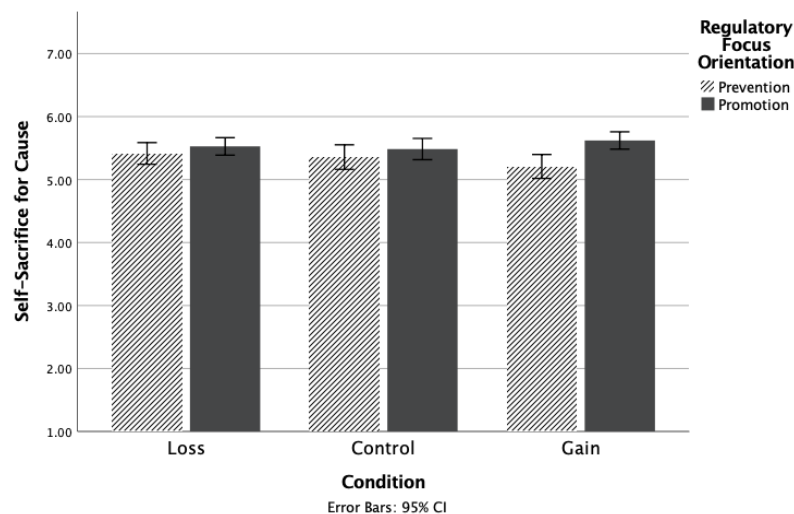


Figure 3.3
Self-Sacrifice for a Cause

Self-Sacrifice for Friends

Next, self-sacrifice for friends was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, and a product term representing their

interactions. Analysis of main effects show that there was no main effect for significance loss ($b = .016, t = .137, p = .891$), significance gain ($b = -.161, t = -1.401, p = .162$), or regulatory focus orientation on the willingness to self-sacrifice for a one's friends ($b = .036, t = .433, p = .129$). The interaction between significance gain and regulatory focus orientation was significant ($b = .302, t = 2.364, p = .019$) indicating that participants who were in the significance gain condition and were promotion focused rather than prevention focused were more willing to sacrifice for a cause compared to those in the control condition. The interaction between significance loss and regulatory focus orientation was not significant ($b = .025, t = .125, p = .861$). Finally, the interaction between the need for significance and regulatory focus orientation did explain a significant proportion of variance of the willingness to sacrifice for friends, $R^2 = .05, F(5, 237) = 2.40, p = .037$. Observed values are plotted in figure 3.4.

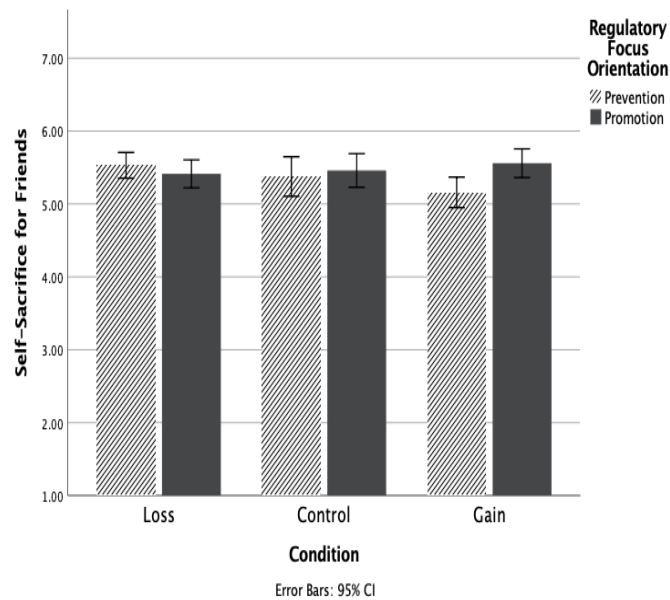


Figure 3.4.
Self-Sacrifice for Friends

Future Study Participation

Next, a willingness to participate in a future study on social causes was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, and a product term representing their interactions. Analysis show that there was no main effect of significance loss ($b = .083$, $t = .573$, $p = .567$), significance gain ($b = -.078$, $t = -.559$, $p = .576$), or regulatory focus orientation on the willingness participate in a future study ($b = .044$, $t = .435$, $p = .664$). Neither the interaction between significance gain and regulatory focus orientation ($b = .117$, $t = .755$, $p = .451$) or the interaction between significance loss and regulatory focus orientation ($b = -.173$, $t = 1.045$, $p = .297$) were significant. Observed values are plotted in figure 3.5.

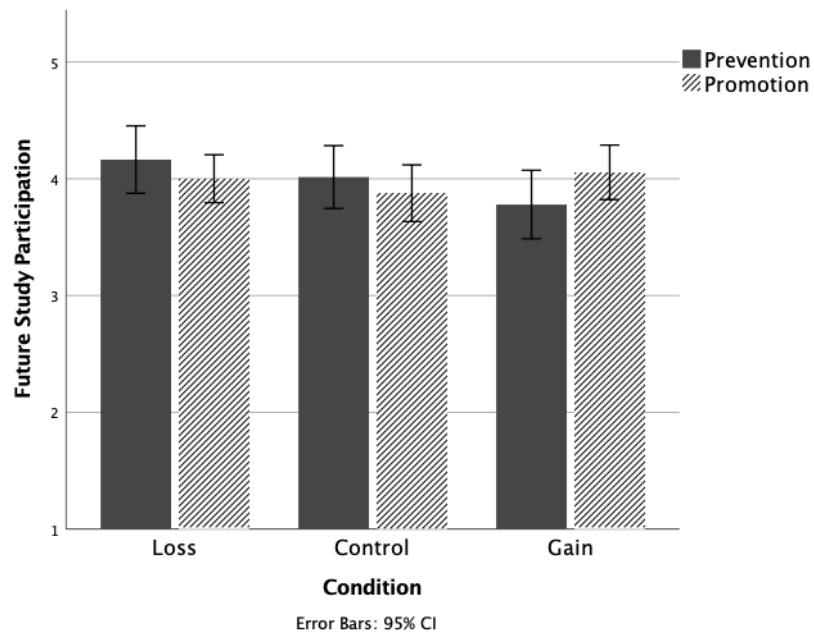


Figure 3.5

5.6. Discussion

The present study sought to build on previous research on the 3N model of radicalization by providing novel evidence concerning the impact of the opportunity for significance gain on the willingness to sacrifice. While it has been theorized that opportunities for significance gain can initiate the quest for significance, to date, there has been no empirical evidence to support this claim. From a theoretical perspective, it is important to not only develop an experimental manipulation that examines the opportunity for significance gain, and also to understand how it might interact with regulatory focus orientation to predict the willingness to sacrifice. Previous research has demonstrated that individuals behave differently given their promotion or prevention focus, and it is likely that this orientation will interact with significance gain or loss differently in the domain of self-sacrifice as well. Therefore, it was predicted that when people experience a loss of significance (Hypothesis 2.1a) or opportunity for significance gain (Hypothesis 2.1b) that they would be more willing to engage in extreme behaviors such as sacrificing for a cause, for friends, or one's time. I also predicted that the willingness to engage in extreme behaviors following a significance loss or gain would be moderated by an individual's regulatory focus orientation (Hypothesis 2.2). Specifically, I anticipated that individuals who were exposed to significance loss and are more prevention (vs. promotion) focused would be more willing to engage in extreme (i.e., sacrificial) behaviors than those who were more promotion (vs. prevention) focused. Additionally, I predicted that individuals who were exposed to significance gain and are more promotion (vs. prevention) focused would

also be more willing to engage in extreme behaviors compared to individuals who were more prevention (vs. promotion) focused.

Unfortunately, the data revealed no support for the prediction that the priming of significance loss (Hypothesis 2.1a) or significance gain (Hypothesis 2.1b) would lead to an increased willingness to engage in extreme/sacrificial behaviors. The priming of significance loss and gain had no significant impact on participants' willingness to sacrifice for a cause or for their friends.

Despite the lack of support for hypothesis 2.1, there was limited support in favor of hypothesis 2.2. When assessing the likelihood of sacrificing for a cause and for one's friends, the data show that the priming of significance gain was moderated by one's regulatory focus orientation. When participants were primed with an opportunity for significance gain, they were more willing to sacrifice for a cause and for their friends when they were promotion-focused, but not when they were prevention-focused. However, this finding was not replicated by a willingness to sacrifice one's time by participating in a future study.

A possible explanation for the null effects of the manipulation of the need for significance may be that the manipulation itself was not strong enough to prompt a questing for significance. It was promising that the manipulation checks of loss and gain indicated that participants felt more or less significant depending on which priming they received. However, it is likely that despite feeling more or less significant, the result of the prime was not sufficient to induce a state of motivational imbalance. Perhaps it is likely that given the current circumstances involving the ongoing global pandemic, people are more likely to suppress negative states such as significance loss.

As a result, participants may have been less likely to be influenced by the manipulation of significance loss.

It was promising that there were two observed instances that supported hypothesis 2.2. regarding the moderating effect of regulatory focus orientation on the willingness to sacrifice after being primed with significance gain. When examining the willingness to sacrifice for a cause and for friends, the data show that participants who were promotion-focused and primed with significance gain were more willing to sacrifice. These results provide partial support that one's regulatory focus orientation influences the relationship between a need for significance and a willingness to engage in extreme/sacrificial behavior. While this finding was not replicated across the willingness to participate in a future study, it does provide suggestive evidence concerning mechanisms that may increase the likelihood to engage in the extreme.

Another promising result from the present study was the impact of regulatory focus orientation on the willingness to sacrifice. The results show that people who are promotion-focused were more likely to sacrifice for a cause. This finding is consistent with the 3N model of extremism in that it provides evidence conditions under which people may be likely to become committed to a dominant goal. It is possible that the idea of gaining significance through extreme behaviors is an enticing prospect for promotion-oriented individuals and as a result, they are more likely to engage in the extreme compared to prevention-oriented individuals. In other words, promotion-focused individuals are more likely to exhibit the motivational imbalance and eagerly commit themselves to a cause even if this is at the costs of other needs. In contrast, prevention-oriented individuals who are cautious and vigilant may be more prone to

exhibit motivational balance and strive to make sure that none of their basic needs are neglected.

Given the mixed results of Study 2, it is necessary to further explore the 3N's as they impact a willingness to engage in the extreme. Study 3 specifically explored how a value-endorsing narrative may affect the relationships in question.

Chapter 6: Study 3

6.1 Overview

The purpose of Study 3 was to investigate the role that the network component plays in the 3N model of radicalization. In this study, I examined the extent to which individuals' network of significant others (i.e., family and friends) can influence their readiness to sacrifice. Networks have been assumed to constitute an important source of significance for many people and play a key role in generating a willingness to engage in extreme behavior. Importantly the network serves as an *epistemic authority* that guides people in the selection of means for achieving a given goal. Further, networks define the factual and normative reality for people and serve as a reference that shapes behaviors and attitudes (Kruglanski, Bélanger, & Gunaratna, 2019). As such, when people experience a loss of significance or an opportunity for significance gain, I predicted that the saliency of an important network would elicit a higher readiness of sacrificing for one's friends and to be more willing to participate in a future study (Hypothesis 3.1). Further, I predicted that these relationships would be moderated by an individual's regulatory focus orientation (Hypothesis 3.2). Individuals with a prevention focus should be more willing to sacrifice for a cause after experiencing a *significance loss* and being exposed to an important social network. I expect a similar willingness to sacrifice to occur for individuals with a promotion-focus when presented an opportunity for *significance gain* coupled with exposure to an important network.

6.2 Participants

I ran a power analysis to determine that a total of 288 participants will be needed in my study in order to achieve an effect size of 0.7 (Cohen's D) and a power of 0.8.

Given the design of the study, participants were oversampled to ensure that there is sufficient power to analyze the predicted interactions. Therefore, 429 participants from mTurk were recruited for participation in the study. A total of 67 participants failed to complete the writing portion of the experiment as directed and were therefore excluded from analyses. As a result, a total of 362 participants completed the study.

The participant sample consisted of 214 men and 148 women, while 2 participants were gender non-binary or chose not to disclose their gender. The average age of participants was 37.29 ($SD = 11.29$). In terms of ethnicity, there were 267 White, 28 Latino, 51 Black, 11 Native American, 31 Asian/Pacific Islander, and 1 identified as other participants. A majority of participants have completed at least a 2-year college degree program or more. Further, most participants reported being politically moderate. Their average response, when asked to rate their political ideology on a 1-7 scale from extremely liberal to extremely conservative, was 4.01 ($SD = 1.91$). Additionally, when asked about their religious views, participants reported being moderately religious reporting an average response of 4.82 ($SD = 2.24$) on a 1-7 Likert scale.

All data for the study was collected via Qualtrics online. The participants signed an informed consent form electronically and were treated in accordance with APA guidelines.

6.3 Design

Study 3 was designed to examine the extent to which significance loss or opportunity for significance gain affects the willingness to sacrifice through the influence of one's network. As with the previous studies, I also hypothesized that an individual's regulatory focus orientation would interact with significance loss or gain

in predicting this willingness. Therefore, the present study contained three independent variables. The first was the need for significance comprising three experimental conditions, loss, gain, or control. The second independent variable was regulatory focus orientation, that is, promotion versus prevention focus (Higgins, 1998). Consistent with the procedures used in Study 2, I used the RFQ scoring key (Higgins et. al., 2001) to create an index score that represents a participant's orientation towards prevention or promotion. Following the methodology used by Higgins (2001) regulatory focus orientation was calculated by subtracting the mean scores of the prevention- related items from the mean scores of the promotion-related items. As a result, the RFQ index score provides a single continuous measure, with positive numbers indicating a promotion focus and negative numbers indicating prevention focus (Cesario & Higgins, 2008; Molden & Higgins, 2004; Camacho, Higgins, & Luger, 2003). The final independent variable was the saliency of an important network at two levels, a network prime condition and a no prime condition. The major dependent variable of interest in this study is the willingness to self-sacrifice for friends as measured via the modified self-sacrifice scale (Bélanger, Caouette, Sharvit, & Dugas, 2014) that was used in Study 2. Additionally, I also examined the extent to which the need for significance, regulatory focus orientation, and network saliency would impact a willingness to participate in a future study on social causes.

6.4 Procedure

The procedures for study 3 were very similar to those used in study 2; however, a manipulation of a network was added. Participants first completed a short scale to identify their regulatory focus orientation using the Regulatory Focus Questionnaire

(Higgins, 1998). Then to begin the experimental portion of the experiment, participants were randomly assigned to one of three need for significance conditions using the same writing tasks that were pilot tested and used in Study 2. In the significance loss condition, participants were asked to write about a time in which they felt humiliated or ashamed. In the significance gain condition, participants were asked to write about someone whom they admire and look up to, as a person. They were asked to describe how this person inspires them. Finally, in the control condition, participants wrote about the last time they watched a TV show or a movie. After the writing task, a manipulation check was used to assess participants' current feelings of significance.

Following the manipulation of the need for significance, participants were randomly assigned to either a network prime or a no prime condition. In the network prime condition, participants were asked to name a group that is very important to them. Then they were asked to list five people who are members of that group and write a short paragraph describing why they are important. Next, participants answered a question designed to identify how fused they were with their network using Swann's measure of identity fusion (Swann et. al, 2009). In the no prime condition, participants were asked to name five of their favorite foods.

As an intermediary task, participants were instructed to write a brief paragraph describing their morning routines. Then, after completion of the experimental manipulations and the intermediary tasks participants completed a number of scale items pertaining to the dependent variables of interest. First, participants completed the modified version of the self-sacrifice scale (Bèlanger, Caouette, Sharvit, & Dugas, 2014) designed to assess a willingness to sacrifice for close friends. Finally, to measure

a behavioral intention, namely the willingness to sacrifice their time, participants were offered an opportunity to participate in a future study on social causes. They were able to indicate their willingness on a 5-point scale ranging from definitely not to definitely yes.

After completing all of the foregoing measures participants reported their demographic information and were then debriefed about the actual purpose of the study.

6.5 Results

Network Manipulation Pilot Study

To examine the effectiveness of the network manipulation, 60 participants were recruited via MTurk. A total of 5 participants' data were excluded from analysis as they failed to adequately complete the writing tasks as directed.

The independent variable of interest in the pilot study was network saliency at two conditions, prime and no prime. 30 of the participants were assigned to the network prime condition in which they were asked to name a group of people that is very important to them, list five people who belong in that group, and then write a short paragraph describing why they considered that group as important. Participants in the control condition were asked to name their favorite food and then describe the last time they ate it. The dependent variable of interest for the pilot study was the self-sacrifice scale. I hypothesized that those in the network prime condition would be more willing to sacrifice than those in the control condition.

As predicted, the results show that the 28 participants who received the network prime manipulation ($M = 5.84$, $SD = .62$) compared to the 27 participants in the control

group ($M = 5.38$, $SD = .44$) did show a significantly higher willingness to self-sacrifice for friends, $t(53) = 3.13$ $p = .003$. These results provided evidence that the network prime manipulation is successful and would be suitable for use in future studies.

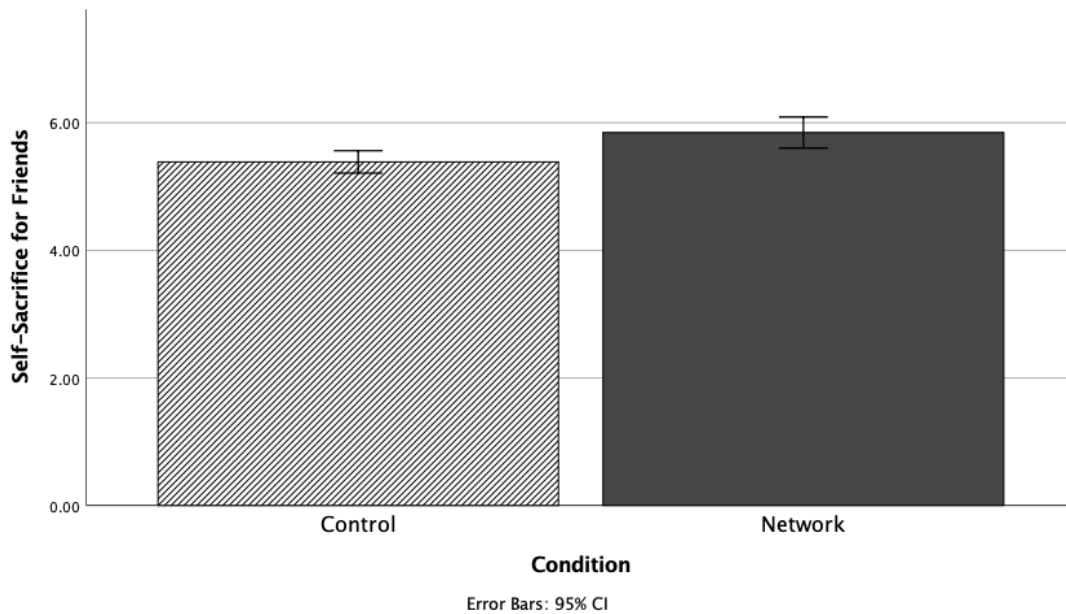


Figure 6.1
Network Prime Pilot Test

Correlations and Descriptive Statistics

The complete correlation table for all of the measures, as well as their means and standard deviations, are available in table 3.1

There was a significant correlation between self-sacrifice and a willingness to participate in a future study ($r(356) = .225$, $p < .001$), suggesting that those who were more likely to sacrifice were also more likely to participate in a future study. There was also a significant correlation between network-identity fusion and a willingness to participate in a future study ($r(167) = .297$, $p < .001$), meaning that as a network

becomes more fused with an identity a person is more willing to sacrifice their time to participate in a future study.

Table 3.1

Inter-correlations and descriptive statistics for all variables in Study 3

	RFO	Self-Sac	Future Study	Network Fusion
Regulatory Focus Orientation	-			
Self-Sacrifice Friends	.079	-		
Future Study Participation	.089	.225***	-	
Network Fusion	.25	.297***	.038	-
<i>Mean</i>	.261	5.24	4.24	3.92
<i>SD</i>	.833	.82	.933	.956

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Significance Condition Manipulation Check

Results from an independent samples t-test show that participants in the loss condition ($M = 3.60$, $SD = 1.82$) compared to those in the control condition ($M = 2.68$, $SD = 1.72$) felt more insignificant ($t(235) = 3.965$, $p = .001$) when answering questions pertaining to feelings of insignificance. Participants who wrote about an embarrassing moment in their lives felt considerably more worthless, insignificant, ashamed, humiliated, and treated with less dignity than those in the control condition.

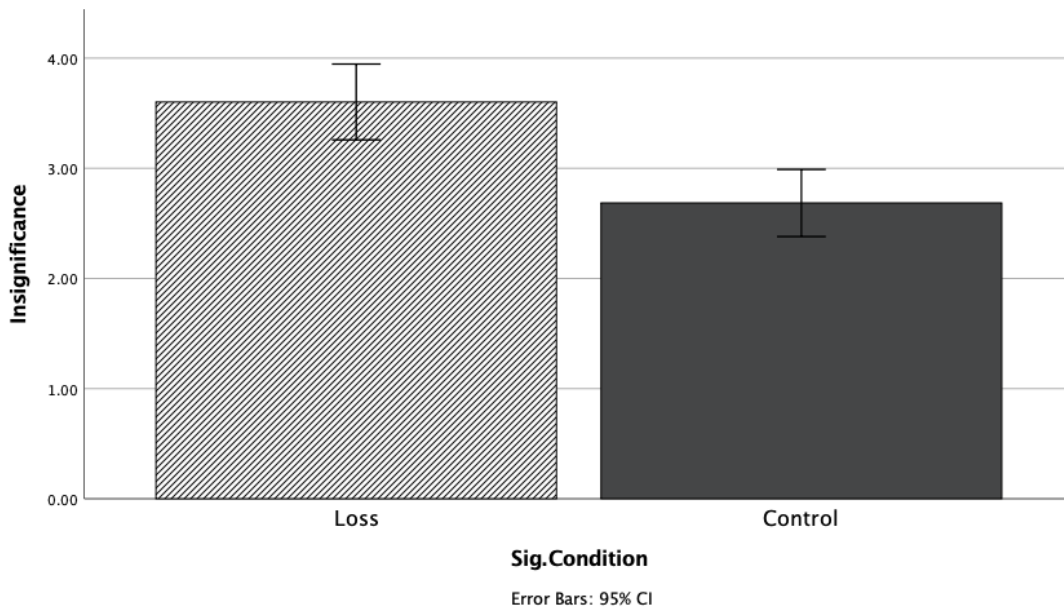


Figure 6.2:
Significance Loss Manipulation Check

The results from the manipulation of significance gain were promising. An independent samples t-test show that participants in the gain condition ($M = 5.07$, $SD = 1.33$) felt more significant compared to those in the control condition ($M = 4.58$, $SD = 1.50$) when answering questions pertaining to feelings of significance ($t(243) =$

2.765, $p = .008$). Participants in the gain condition reported feeling more honored, proud, accepted by others, hopeful, important, or inspired.

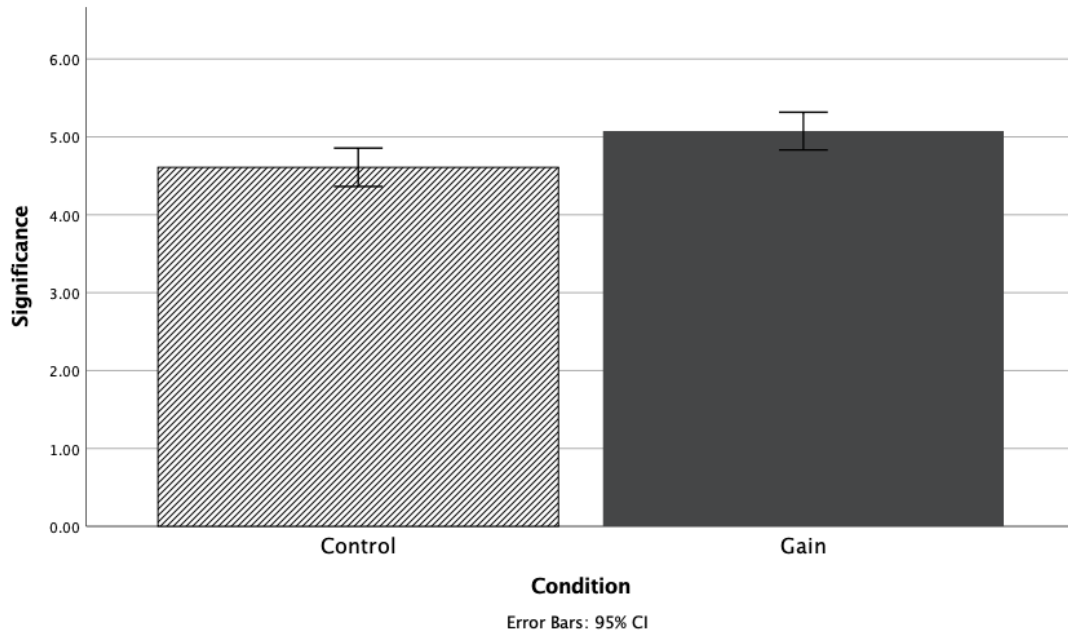


Figure 6.3
Significance Gain Manipulation Check

Self-Sacrifice for Friends

The willingness to self-sacrifice for friends was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network saliency (dummy coded; 1 = network prime; 0 = no prime) and a product term representing their interactions. Analysis show only a main effect of regulatory focus orientation on the willingness to self-sacrifice for friends ($b = .319$, $t = 2.649$, $p = .008$), indicating that individuals with a promotion focus are more willing to sacrifice for their friends than those with a prevention focus. There were no observed main effects for the significance

gain ($b = .188, t = 1.309, p = .191$), significance loss ($b = .096, t = .625, p = .532$), or network saliency. ($b = .278, t = 1.895, p = .059$).

There was a significant two-way interaction between significance loss and regulatory focus orientation ($b = -3.97, t = -2.139, p = .033$). Participants in the loss condition who were prevention-focused were less likely to sacrifice for their friends compared to those who were in the control condition. Additionally, there was a two-way interaction between regulatory focus orientation and network saliency ($b = -4.92, t = -2.805, p = .005$) indicating that the saliency of an important network reduced a willingness to sacrifice for prevention-focused individuals compared to those who were promotion-focused. There were no significant two-way interactions between significance gain and regulatory focus orientation ($b = -.218, t = -1.300, p = .195$), significance gain and network saliency ($b = -.332, t = -1.491, p = .137$), or significance loss and network saliency ($b = -.163, t = -.749, p = .454$).

Finally, there were significant three-way interactions between significance gain, regulatory focus orientation, and network saliency ($b = .559, t = 2.2204, p = .028$) and significance loss, regulatory focus orientation, and network saliency ($b = .644, t = 2.528, p = .012$). As predicted participants who were promotion-focused, exposed to significance gain and who had an important narrative made salient were more willing to sacrifice for their friends compared to those in the control conditions. Additionally, participants who were prevention-focused, exposed to significance loss, and who had an important network made salient were more also more likely to sacrifice for friends compared to those in the control conditions. Observed values are plotted in figure 6.4.

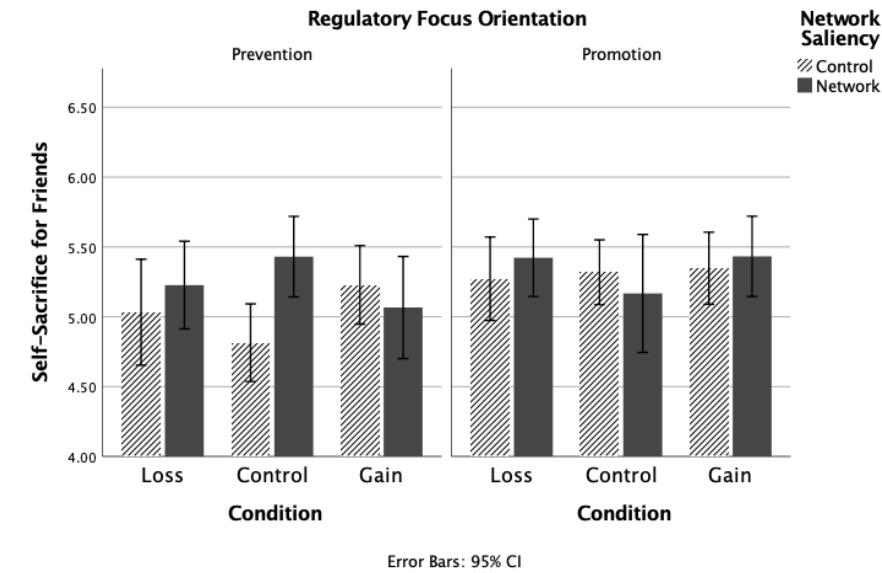


Figure 6.4
Self-Sacrifice for Friends

Future Study Participation

A willingness to participate in a future study on social causes was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network saliency (dummy coded; 1 = network Prime; 0 = no prime) and a product term representing their interactions. The data show no main effects of significance gain ($b = .220, t = 1.352, p = .177$), significance loss ($b = -.062, t = -.359, p = .720$), regulatory focus orientation ($b = -.191, t = -1.402, p = .162$), or network saliency on the willingness to participate in a future study ($b = .312, t = 1.877, p = .061$).

There was a significant two-way interaction between regulatory focus orientation and network saliency ($b = -.229, t = -.907, p = .365$), indicating that

participants who were in the network saliency condition and were promotion-focused were more likely to participate in a future study compared to those in the control condition. There were no significant two-way interactions between significance gain and regulatory focus orientation ($b = .002, t = .013, p = .990$), significance loss and regulatory focus orientation ($b = .107, t = .508, p = .612$), significance gain and network saliency ($b = -.229, t = -.907, p = .365$), or significance loss and network saliency ($b = -.239, t = -1.670, p = .077$). Finally, there were no three-way interactions between the significance gain, regulatory focus orientation, and network saliency ($b = .085, t = .295, p = .768$) or significance loss, regulatory focus orientation, and network saliency ($b = .285, t = .987, p = .324$). Observed values are plotted in figure 6.5.

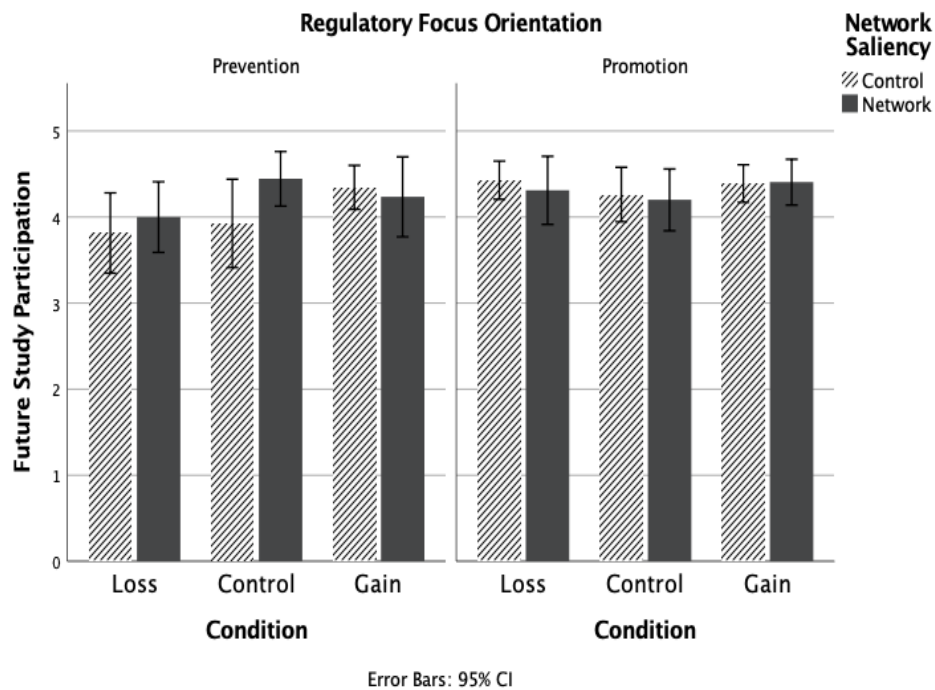


Figure 6.5
Future Study Participation

I examined how the degree to which a person's identity is fused with a network might impact their willingness to self-sacrifice. Following the priming of an important network, participants in the network condition answered a question modeled after Swann's (2009) identity fusion measure to assess the degree to which their identity is fused with their important network. Participants were asked to identify how fused their identity was with their network on a 1-5 Likert scale. This score was used to represent the degree that their identity was fused with their network. The measure of identity-network fusion was used to examine how network fusion might increase the willingness to self-sacrifice for close friends. I also examined how it might enhance a willingness to participate in a future study.

Network Fusion and Self-Sacrifice for Friends

Self-sacrifice for friends was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network fusion and a product term representing their interactions. There was an observed main effect of network fusion on the willingness to sacrifice for friends ($b = .363, t = 3.016, p = .003$) indicating that stronger network fusion leads to a higher likelihood of sacrificing for one's friends for those in the network saliency condition. There was also a main effect of regulatory orientation ($b = 1.232, t = 2.734, p = .007$) indicating that participants who were promotion-focused were more willing to sacrifice for their friends. There were no main effects for the significance loss ($b = -.056, t = -.089, p = .929$) or significance gain ($b = .827, t = 1.152, p = .251$).

There was a significant two-way interaction between significance gain and regulatory focus orientation ($b = -2.504, t = -3.349, p = .001$). This suggests that the willingness to self-sacrifice for friends was higher for participants who were in the gain condition and were prevention-focused relative to control condition. Additionally, there was a two-way interaction between regulatory focus orientation and network fusion ($b = -.378, t = -3.183, p = .002$) indicating that as prevention-focused participants become more tightly fused with a narrative they become more willing to sacrifice for their friends. There were no two-way interactions observed for significance loss and regulatory focus orientation ($b = -1.065, t = -1.650, p = .101$), significance gain and network fusion ($b = -.254, t = -1.429, p = .155$), and significance loss and network fusion ($b = .004, t = .025, p = .980$).

There was a three-way interaction between significance gain, regulatory focus orientation, and network fusion ($b = .725, t = 3.913, p = .000$). The willingness to sacrifice for friends is higher for individuals who are promotion-focused, are tightly fused with their network, and have experienced the significance gain manipulation compared to the control conditions. There was also a three-way interaction between significance loss, regulatory focus orientation, and network fusion ($b = .351, t = 2.109, p = .037$) indicating that participants who were in the significance loss condition, were tightly fused with their network and were prevention-focused were also more likely to sacrifice for their friends when compared to the control conditions. Finally, the interaction between the need for significance, regulatory focus orientation, and network fusion did explain a significant proportion of variance of the willingness to sacrifice

for friends, $R^2 = .16$, $F(11, 161) = 2.827$, $p = .002$. Observed values are plotted in figure 6.6.

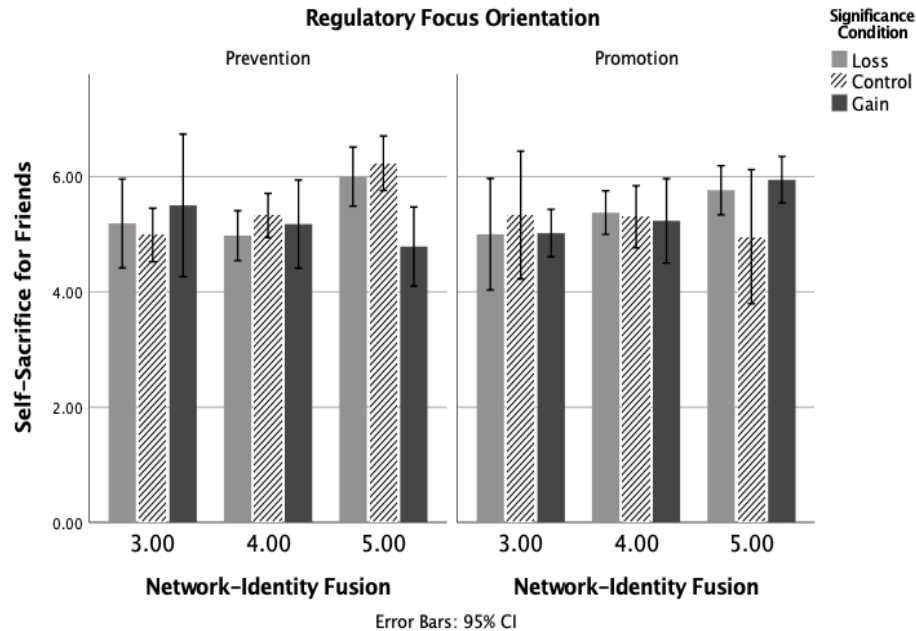


Figure 6.6
Network Fusion and Self-Sacrifice for Friends
 Note: Chart represents only individuals with high levels of network fusion

Network Fusion and Future Study Participation

Next, a willingness to participate in a future study on social causes was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network fusion and a product term representing their interactions. There were no main effects observed for the significance gain ($b = -.189$, $t = -.229$, $p = .819$), significance loss ($b = -.701$, $t = -.976$, $p = .331$), regulatory focus orientation ($b = .858$, $t = 1.654$, $p = .100$), or network fusion ($b = .022$, $t = .161$, $p = .872$) on the willingness to participate in a future study.

There was a significant two-way interaction between significance gain and regulatory focus orientation ($b = 1.840, t = -2.137, p = .034$) indicating that participants in the significance gain condition who were promotion-focused were more willing to participate in a future study. There was also a two-way interaction between regulatory focus orientation and network fusion ($b = -.303, t = -2.215, p = .028$) indicating that prevention-focused participants who were more tightly fused with their network were more willing to participate in a future study. There were no significant two-way interactions between significance loss and regulatory focus orientation ($b = -.241, t = -.324, p = .746$), significance gain and network fusion ($b = .046, t = .226, p = .822$), and significance loss and network fusion ($b = .108, t = .597, p = .551$).

There was a three-way interaction between the significance gain, regulatory focus orientation, and network fusion ($b = .506, t = 2.372, p = .019$) meaning that participants who were in the significance gain condition and were both tightly fused with their network and promotion-focused were more likely to participate in a future study compared to the control condition. There was no observed three-way interaction between significance loss, regulatory focus and network fusion significance gain and network fusion ($b = .185, t = .966, p = .336$). Observed values are plotted in figure 6.7.

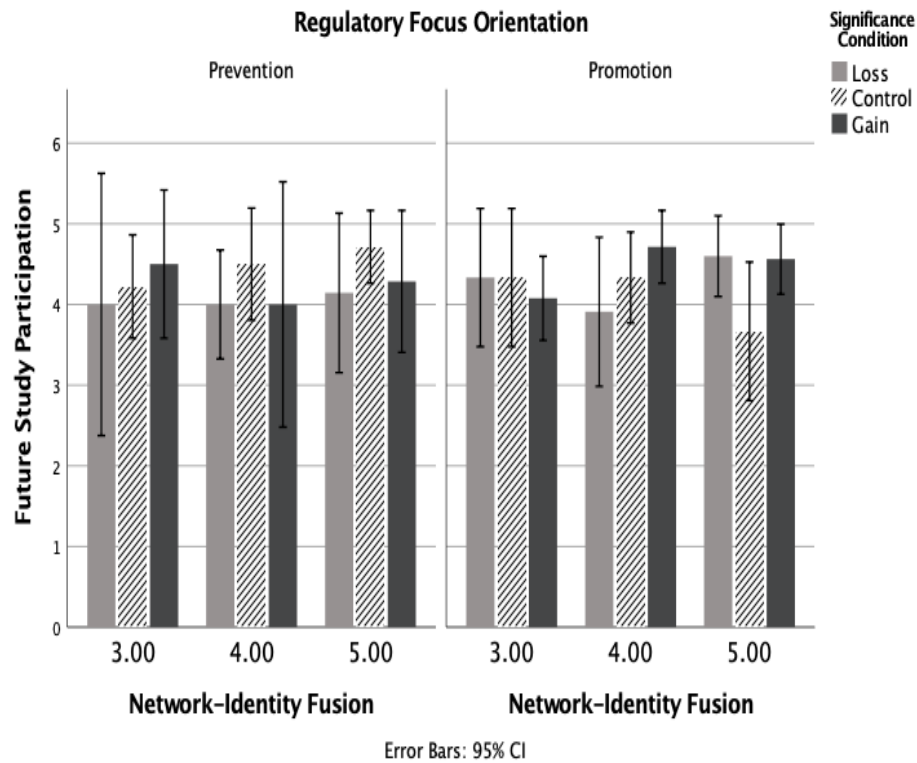


Figure 6.7
Network Fusion and Future Study Participation
 Note: Chart represents only individuals with high levels of network fusion

6.6. Discussion

Study 3 was designed to investigate how an important network interacts with the need for significance to produce a willingness to engage in extreme behavior. For purposes of this study, the willingness to engage in t extreme behavior was measured by examining how someone might make sacrifices for their friends or sacrifice their time to participate in a future study. It was predicted that when people experience a loss of significance or an opportunity for significance gain the saliency of an important network would elicit a higher readiness to engage in extreme behaviors (Hypothesis 3.1). Further, I predicted that the impact of the need for significance and the saliency

of an important network on the likelihood to produce extreme behaviors would be moderated by an individual's regulatory focus orientation (Hypothesis 3.2). More specifically, I predicted that individuals with a prevention focus would be more willing to sacrifice for their friends or participate in a future study after experiencing a *significance loss* and being exposed to an important social network. I expected a similar willingness to sacrifice to occur for individuals with a promotion-focus when presented an opportunity for *significance gain* coupled with exposure to an important network.

The results from study 3 did not find consistent evidence in support of the predictions that deprivation or incentivization of significance would interact with network saliency to increase a willingness to engage in the extreme by sacrificing for one's friends or would be willing to participate in a future study (Hypothesis 3.1). Additionally, there was evidence, although it was not consistent across the dependent variables, to support the prediction that extreme behaviors are moderated by an individual's regulatory focus orientation when experiencing significance deprivation or incentivization and when an important network has been made salient (Hypothesis 3.2).

One possible explanation for these null effects is that the manipulation of significance may have not been powerful enough to elicit an increased willingness to sacrifice. While the results of the manipulation of significance were encouraging, with both the manipulation of significance gain and loss being effective, there was minimal impact of the manipulation on a willingness to sacrifice. Given the lack of impact that the manipulation of significance loss had, it is possible to conclude that the manipulation was not powerful enough on its own to elicit sacrificial behaviors. It is

also important to consider that the data was collected during the COVID-19 global pandemic. During this time, people were confronted with considerable threats to their significance, safety, health, etc. on a daily basis. As a result, it is possible that participants were likely to suppress their reaction to the negative states that were induced with the manipulation of the need for significance. Overall, the manipulation of significance loss and gain was not as effective as had been hoped. Future studies will need to sharpen the manipulation to give the hypothesized relation a better chance to be manifest.

One serendipitous finding from study 3 was the impact of regulatory focus orientation on the willingness to engage in extreme behaviors. The findings in study 3 again show that promotion-focused individuals have a higher propensity to sacrifice on behalf of their friends when compared to prevention-focused individuals. These findings are similar to what was observed in study 2, and further support the notion that perhaps promotion-oriented individuals view acts of sacrifice as a means of gaining significance or status and as a result have a higher propensity to engage in sacrificial behaviors. Promotion-focused individuals tend to have an eager goal-pursuit strategy and their goal-pursuit strategy is typically focused on the concept of gains. Therefore, due to this motivational orientation, people who are promotion-focused have a higher likelihood of adopting dominant goals, which could lead to extreme behaviors. The implications of this finding will be further examined in the General Discussion.

The analysis of network fusion yielded fruitful insight into the role that an important network has on the willingness to engage in extreme behavior. The results show that a positive correlation exists between the likelihood of engaging in self-

sacrifice for friends when people are more tightly fused with an important network. Interestingly, there was an observed main effect of network fusion on a willingness to sacrifice for one's friends and a two-way interaction was observed between the need for significance and network-fusion on the willingness to sacrifice for friends providing support for hypothesis 3.1. In support of hypothesis 3.2, a three-way interaction was observed between both significance gain and loss, network-fusion, and regulatory focus orientation. The results show that promotion-focused participants who experienced significance gain and were more tightly fused with their networks were more likely to sacrifice for their friends when compared to the control condition. The same is true for participants who were in the significance loss condition, prevention-focused, and tightly fused to a network when compared to the control condition. It appears that the activation of a network and the degree to which the network is fused with one's identity plays a vital role in motivating extreme behaviors when an individual is promotion-focused. While this result was not consistent across the other dependent variables in the study, it is encouraging that there is evidence to support the prediction that an individual's regulatory focus orientation can impact a willingness to sacrifice for one's friends when coupled with significance incentivization and the activation of an important network. This finding provides further evidence pointing to the role that a promotion focus has in leading to a willingness to engage in extreme behavior. Additionally, this evidence supports a key claim of the 3N model of radicalization that a person's network guides a person's selection of extreme means to fulfill their goal, but also importantly highlights that there may be a dependence on the degree to which one is embedded or fused with a given network.

In summary, Study 3 investigated the role that individuals' social networks play in motivating their willingness to sacrifice. By examining the unique role that networks have in the radicalization process, we begin to understand how the accessibility of important networks can increase the likelihood of an individual making a sacrifice on behalf of an important cause. According to Connor and Becker (1994) people act in accordance with their values only when these are made salient. Accordingly, activation of an individual's network makes the value systems connected to that network salient and seemingly valid and as a result, we expect to see a greater shift towards extreme behavior on behalf of one's group following significance loss or gain in the presence (vs. absence) of the individuals' network. In this sense, while the major predictions of Study 3 were not supported, the results have provided at least some evidence that the activation of an individual's network may increase the likelihood of individuals who are immersed in (or fused with) that network to engage in extreme behaviors.

Chapter 7: Study 4

7.1 Overview

The purpose of Study 4 was to isolate and examine the narrative component of the 3N model and investigate the extent to which it can motivate people to engage in extreme behaviors. Groups utilize value-laden narratives to guide people in the selection of extreme means to satisfy goals at both the individual and the group level (Kruglanski, Bélanger, & Gunaratna, 2019). Consequently, research must examine the unique impact that narratives can have in the radicalization process.

In order to examine the narrative component of the 3N model, Study 4 utilized the methodological framework used in Study 3. However, the network component from Study 3, was replaced by the narrative component of the 3N model of radicalization. This allowed for exploration of the unique impact that narratives have in the radicalization process. Further, it allowed for an examination of how narratives might impact people following significance deprivation or incentivization. The hypotheses of Study 4 were similar to those of Study 3. I anticipated that significance loss or the opportunity for significance gain would interact with narratives that espouse an important social cause and would increase the tendency to engage in extreme behaviors (Hypothesis 4.1). Additionally, this relationship should be moderated by an individual's regulatory focus orientation (Hypothesis 4.2). Participants who are prevention-focused should be more impacted by the narratives following a significance loss, which should result in their increased willingness to sacrifice on behalf of a cause. Similarly, promotion-focused participants should be more impacted by the narratives

following their being primed or inspired by, a possible significance gain similarly inducing a higher willingness to sacrifice for a cause.

7.2 Participants

Participants for Study 4 were recruited via the same methods used in Study 3. A power analysis was used to determine that a total of 288 participants will be needed to achieve an effect size of 0.7 (Cohen's *D*) and a power of 0.8. Again, this study required oversampling to achieve the necessary statistical power to test predicted interactions. Therefore, 445 participants from mTurk were recruited for the study. A total of 67 participants failed to adequately complete the writing tasks in the study and as a result, their data were excluded from the analysis. As a result, a total of 377 participants' data were used in the present study. Of the 377 participants, 228 were male, 148 were female, and 1 was identified as gender non-binary. Regarding ethnicity, 280 participants were White, 50 Black, 8 Native American, 31 Asian/Pacific Islander, and 1 identified as other. Over 75% of participants identified their SES as being middle income or higher. It was also a religiously moderate panel. The average response to the question "How religious are you" was 3.94 (*SD* = 2.21) on a 1-7 Likert Scale. The sample was also largely politically moderate with an average response of 4.16 (*SD* = 1.88) on a 1-7 Likert scale when asked to identify their political ideology from extremely liberal (1) to extremely conservative (7).

All data for the study was collected via Qualtrics online. Participants signed an informed consent form and were treated in accordance with APA guidelines.

7.3 Design

Study 4 was designed to examine the extent to which significance deprivation or incentivization affects the willingness to sacrifice for a cause through the influence of narratives. This study contained three independent variables: regulatory focus orientation, need for significance, and narrative saliency. Regulatory focus orientation was measured prior to any experimental manipulations and participants' orientation was determined as promotion or prevention-focused. Consistent with Studies 2 and 3, I used the RFQ scoring key (Higgins et. al., 2001) to create an index score that represents a participant's orientation towards prevention or promotion. When testing interactions, the prevention/promotion index scores were transformed to represent one standard deviation above or below the mean (Cesario & Higgins, 2008; Molden & Higgins, 2004; Camacho, Higgins, & Luger, 2003). The second independent variable of interest comprising three conditions was the need for significance (significance loss, significance gain, and control). The third independent variable of interest was narrative accessibility. The narrative variable was comprised of two conditions, a prime and a no prime condition (Appendix I). The narrative manipulation was created expressly for this study and was extensively pretested to ensure its suitability. As in the previous studies, the major dependent variables of interest were the willingness to sacrifice for a cause and a willingness to participate in a future study.

7.4 Procedure

Participants initially completed the Regulatory Focus Questionnaire (Higgins, 1997). During the subsequent portion of the experiment, they were given a writing task

designed to manipulate their quest for significance. Following the procedures of Study 2 and 3, participants in the significance loss condition were asked to write a short paragraph about a time in which they felt humiliated or ashamed. Using the previously pilot-tested manipulation, participants in the significance gain condition were asked to write about someone whom they admire and look up to. Then they were asked to write a short paragraph describing how this person inspires them. Finally, in the control condition, participants were asked to write about the last time they watched a television show or a movie. Following the manipulation of the need for significance, participants were presented with a manipulation check designed to assess their current feelings of significance. Following the manipulation check, a second writing task was used to manipulate narrative saliency. Participants in the narrative prime condition completed a short writing task about an important cause. First, they listed a social cause that was important to them. Then they wrote a short paragraph describing why that cause is important to them. Next, they answered an item modeled after Swann's (2009) identity fusion measure to assess how fused the social cause was with their identity. Participants responded on a 5-point scale describing how they view their relationship with the cause. In the no prime condition, participants were asked to name their favorite food and write a brief paragraph describing the last time they ate it. Then, participants completed an intermediary writing task in which they were asked to write a brief paragraph describing their typical morning routine. Finally, participants completed the self-sacrifice scale used in studies 1 and 2 that assessed a willingness to sacrifice for a cause, they also answered a question regarding their readiness to sacrifice their time in

order to participate in a future study on social causes. At the conclusion of the study, participants were debriefed and the purpose of the study was fully explained to them.

7.5 Results

Narrative Manipulation Pilot Study

A pilot study was conducted to assess the suitability of the newly developed narrative saliency manipulation used in Study 4. A total of 60 participants were recruited via MTurk to participate in this pilot study.

The independent variable of interest was narrative saliency consisting of two conditions, prime and no prime. The narrative prime condition had 30 participants complete a short writing task. They were first instructed to name a social cause that is very important to them and then write a short paragraph describing why that group was important to them. Then they answered a narrative fusion measure that identified the strength of their relationship with their cause. The control condition consisted of 30 participants and they completed a short writing task as well. They were asked to name their favorite food and then write a brief paragraph describing the last time they had it. The dependent variable of interest for the pilot study was the self-sacrifice scale. I hypothesized that those in the narrative prime condition would be more willing to sacrifice than those in the control condition.

As predicted, an independent samples t-test show that the 30 participants who received the narrative prime manipulation ($M = 5.95$, $SD = .49$) compared to the 30 participants in the control group ($M = 5.53$, $SD = .17$) did show a significantly higher willingness to self-sacrifice for a cause, $t(58) = 2.169$, $p = .034$. These results provided

evidence that the narrative prime manipulation is effective and suitable for use in future studies.

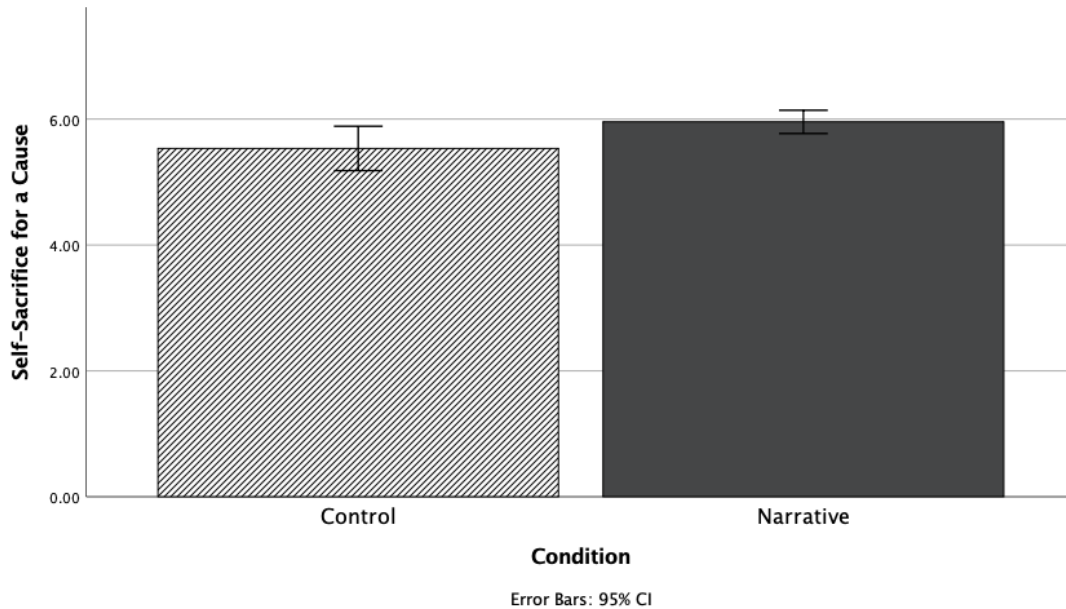


Figure 7.1
Narrative Prime Pilot Test

Correlations and Descriptive Statistics

The complete correlation table for each of the measures in Study 4, as well as their means and standard deviations, are shown in table 7.1

There was a significant correlation between a willingness to sacrifice for a cause and the likelihood to sacrifice one's time to participate in a future study ($r(377) = .195$, $p < .001$), suggesting that the more willing a person is to sacrifice for a cause they are also more willing to sacrifice their time to participate in a future study. There was also a positive relationship between the willingness to sacrifice for a cause and narrative-identity fusion ($r(185) = .337$, $p < .001$, indicating that as a person's identity becomes more fused with a narrative they become more willing to sacrifice on behalf of a cause.

Table 7.1

Inter-correlations and descriptive statistics for all variables in Study 4

	RFO	Self-Sac	Future Study	Narrative Fusion
Regulatory Focus Orientation	-			
Self-Sacrifice Friends	.010	-		
Future Study Participation	.087	.195***	-	
Narrative Fusion	.029	.337***	.036	-
<i>Mean</i>	.331	5.22	4.19	3.64
<i>SD</i>	.831	.811	.945	1.06

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Manipulation Check

An independent samples t-test was used to assess the effectiveness of the manipulation of the need for significance via deprivation. Results show that participants in the loss condition ($M = 3.63$, $SD = 1.95$) compared to those in the control condition ($M = 3.13$, $SD = 1.91$) felt more insignificant after the experimental writing task when answering items on the manipulation check that pertained to feelings of insignificance, $t(238) = 2.014$, $p = .045$. Participants who wrote about an embarrassing moment they have experienced in their lives felt considerably more worthless, humiliated, and treated with less dignity than those in the control condition.

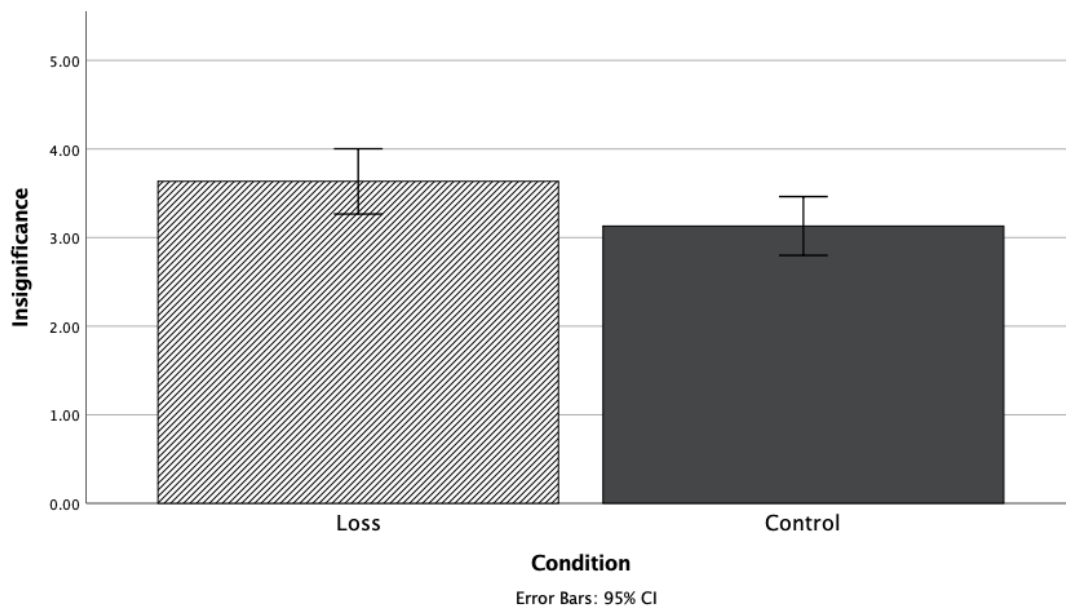


Figure 7.2
Significance Loss Manipulation Check

Next, an independent samples t-test was used to assess the effectiveness of the manipulation of the need for significance via incentivization. Results show that participants in the significance gain condition ($M = 4.98$, $SD = 1.50$) compared to those in the control condition ($M = 4.54$, $SD = 1.56$) reported feeling more significant on the items pertaining to significance on the manipulation check, $t(266) = 2.349$, $p = .020$. Participants who wrote about a personal hero who inspires and motivates them felt considerably more important, proud, honored, and hopeful than those in the control condition.

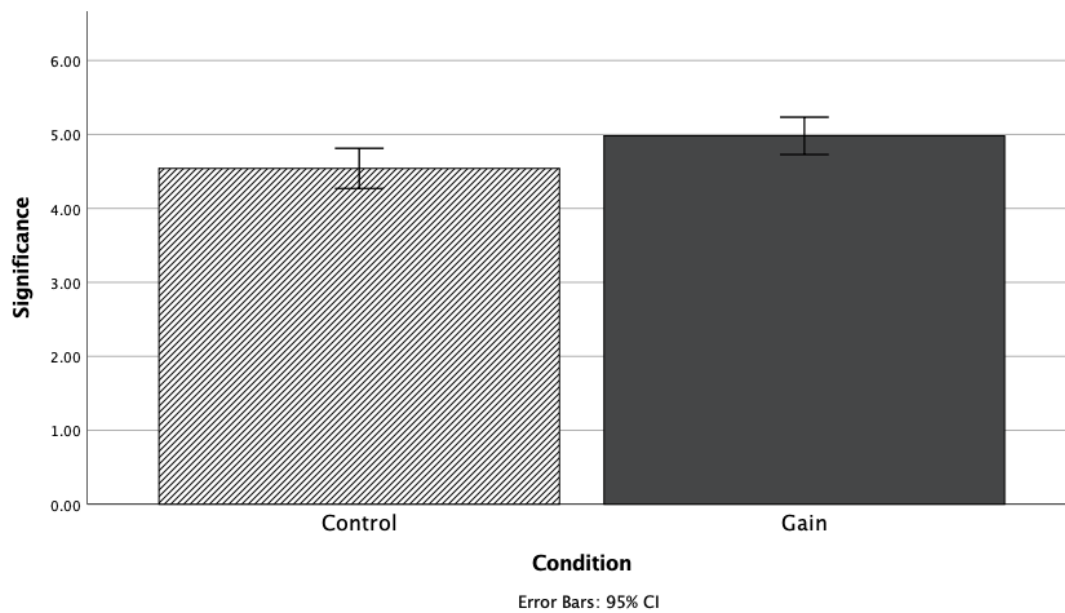


Figure 7.3
Significance Gain Manipulation Check

Self-Sacrifice for a Cause

The willingness to self-sacrifice for a cause was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network saliency (dummy coded; 1 = network prime; 0 = no prime) and a product term representing their interactions. There were no main effects for significance loss ($b = .131$, $t = .856$, $p = .393$), significance gain ($b = .067$, $t = .462$, $p = .644$), or narrative saliency ($b = -.015$, $t = -.089$, $p = .929$) on the willingness to sacrifice for a cause. There was a significant main effect of regulatory focus orientation on the willingness to self-sacrifice for a cause ($b = .328$, $t = 2.717$, $p = .007$), indicating that individuals with a promotion focus are more willing to sacrifice for a cause than those with a prevention focus.

There were no significant two-way interactions between significance gain and regulatory focus orientation ($b = -.079, t = -.471, p = .638$), significance loss and regulatory focus orientation ($b = -.303, t = -1.627, p = .105$), significance gain and narrative saliency ($b = -.120, t = -.544, p = .587$), significance loss and narrative saliency ($b = .096, t = .405, p = .685$), or regulatory focus orientation and narrative saliency ($b = -.281, t = -1.298, p = .195$). There were no three-way interaction between the significance gain, regulatory focus orientation, and narrative saliency ($b = -.097, t = -.363, p = .717$) or significance loss, regulatory focus orientation, and narrative saliency ($b = .254, t = .897, p = .370$). Finally, the interaction between the need for significance, regulatory focus orientation, and narrative saliency did explain a significant proportion of variance of the willingness to sacrifice for a cause, $R^2 = .05$, $F(11, 367) = 1.834, p = .047$. Observed values are plotted in figure 7.4.

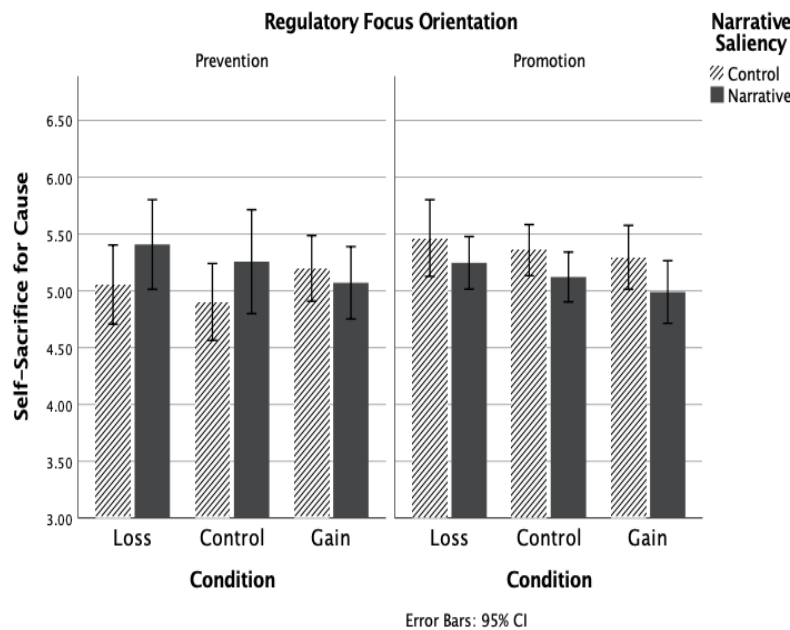


Figure 7.4
Self-Sacrifice for a Cause

Future Study Participation

The willingness to participate in a future study on social causes was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network saliency (dummy coded; 1 = network prime; 0 = no prime) and a product term representing their interactions. There were no main effects for significance loss ($b = -.062$, $t = -.354$, $p = .724$), significance gain ($b = .220$, $t = 1.330$, $p = .184$), regulatory focus orientation ($b = .191$, $t = 1.379$, $p = .169$), or narrative saliency ($b = .214$, $t = 1.131$, $p = .259$) on the willingness to sacrifice for a cause.

There was a significant interaction between regulatory focus orientation and narrative saliency ($b = -.566$, $t = -2.276$, $p = .023$) indicating that participants who are prevention-focused and in the narrative saliency were more likely to participate in a future study compared to those in the control condition. There were no significant two-way interactions between significance gain and regulatory focus orientation ($b = .002$, $t = .013$, $p = .990$), significance loss and regulatory focus orientation ($b = .107$, $t = .500$, $p = .617$), significance gain and narrative saliency ($b = -.385$, $t = -1.512$, $p = .131$), significance loss and narrative saliency ($b = .100$, $t = -.369$, $p = .713$).

Finally, there were no three-way interactions between the significance gain, regulatory focus orientation, and narrative saliency ($b = .270$, $t = .879$, $p = .380$) or significance loss, regulatory focus orientation, and narrative saliency ($b = .494$, $t = 1.519$, $p = .130$). Observed values are plotted in figure 7.5.

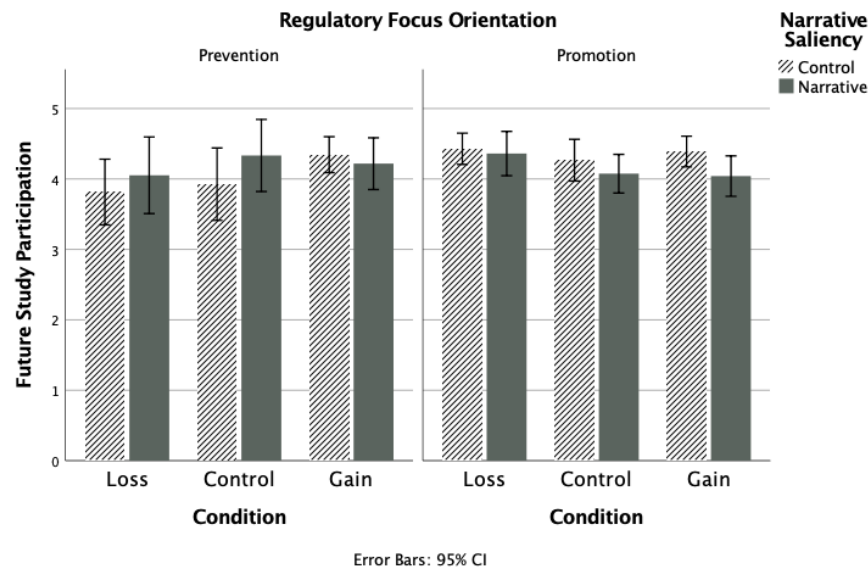


Figure 7.5
Future Study Participation

Narrative Fusion

Similar to the approach used in study 3, I examined how the degree to which a person's identity is fused with a narrative might impact their willingness to sacrifice. Following the narrative priming task, participants in the narrative saliency condition answered a question modeled after Swann's (2009) identity fusion measure to assess the degree to which their identity is fused with an important cause on a 1-5 Likert scale. The measure of narrative-identity fusion was used to examine how narrative fusion might increase a willingness to self-sacrifice for a cause. I also examined how it might enhance a willingness to participate in a future study.

Narrative Fusion and Self-Sacrifice for a Cause

I examined the relationship between narrative fusion and a willingness to self-sacrifice for a cause. A Pearson correlation found no support for a relationship between the two ($r(187) = .383, p = .001$).

The willingness to self-sacrifice for a cause was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network and a product term representing their interactions. There was a main effect of significance loss ($b = 1.698, t = 2.825, p = .05$). Participants in the loss condition were more willing to sacrifice for a cause compared to those in other conditions. Additionally, there was a main effect of narrative fusion ($b = .533, t = 4.089, p = .000$) indicating that participant's whose identity was more tightly fused with a narrative were more willing to sacrifice for a cause. There were no observed main effects for significance gain ($b = .851, t = 1.426, p = .156$), or regulatory focus orientation ($b = .879, t = -.930, p = .353$) on the willingness to sacrifice for a cause.

There was a significant two-way interaction between significance loss and narrative fusion ($b = -.412, t = -2.585, p = .011$) indicating that as participants in the loss condition become more fused with a narrative they become more willing to sacrifice for a cause compared to those in the control condition. There were no significant two-way interactions between significance gain and regulatory focus orientation ($b = -1.563, t = -1.531, p = .128$), significance loss and regulatory focus orientation ($b = -.972, t = -.956, p = .340$), significance gain and narrative fusion ($b = -.262, t = -1.657, p = .099$), or regulatory focus orientation and narrative fusion ($b = -$

.217, $t = -.850$, $p = .397$). There were no three-way interactions between the significance gain, regulatory focus orientation, and narrative fusion ($b = .355$, $t = 1.297$, $p = .196$) or significance loss, regulatory focus orientation, and narrative fusion ($b = .237$, $t = .875$, $p = .383$). Finally, the interaction between the need for significance, regulatory focus orientation, and narrative fusion did explain a significant proportion of variance of the willingness to sacrifice for a cause, $R^2 = .23$, $F(11, 175) = 1.834$, $p = .001$. Observed values are plotted in figure 7.6.

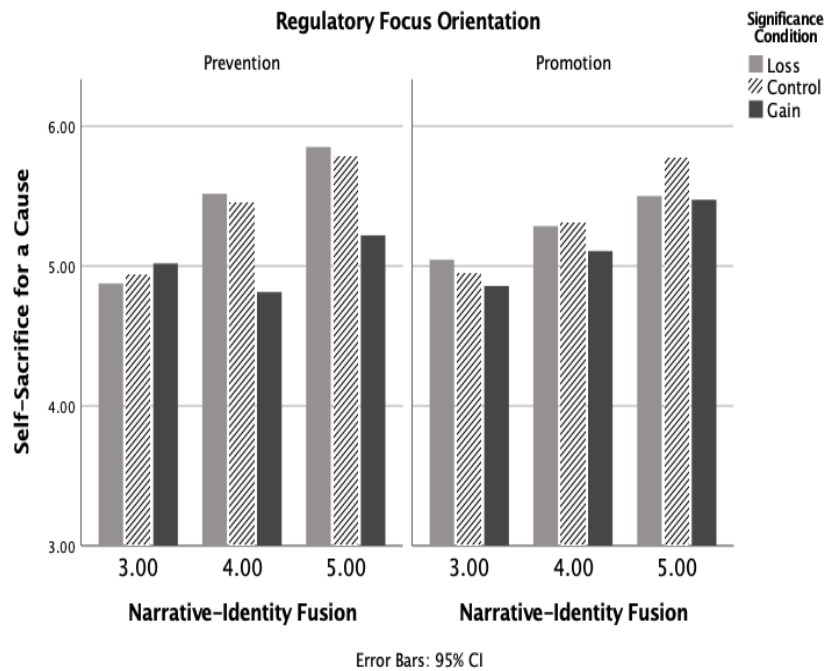


Figure 7.6
Narrative Fusion and Self-Sacrifice for a Cause
Note: Chart represents only individuals with high levels of network fusion

Narrative Fusion and Participation in a Future Study

I also explored the relationship between narrative fusion and a willingness to participate in a future study on social causes. A Pearson correlation found no support for a relationship between the two ($r(183) = .035, p = .629$).

Next, the willingness to self-sacrifice for a cause was regressed on significance gain (dummy coded; 1 = gain; 0 = loss; 0 = control), significance loss (dummy coded; 1 = loss; 0 = gain; 0 = control), regulatory focus orientation, network and a product term representing their interactions. There were no observed main effects for significance loss ($b = -.580, t = -.754, p = .452$), significance gain ($b = -1.176, t = -1.539, p = .126$), regulatory focus orientation ($b = -1.045, t = -.863, p = .389$), or narrative fusion ($b = -.170, t = -1.017, p = .311$) on the willingness to sacrifice for a cause.

There were no significant two-way interactions between significance loss and regulatory focus orientation ($b = 1.064, t = .817, p = .415$), significance gain and regulatory focus orientation ($b = .628, t = .480, p = .631$), significance loss and narrative fusion ($b = .116, t = .569, p = .570$), significance gain and narrative fusion ($b = .277, t = 1.369, p = .173$), or regulatory focus orientation and narrative fusion ($b = .181, t = .554, p = .581$). Finally, there were no three-way interaction between significance gain, regulatory focus orientation, and narrative fusion ($b = -.102, t = -.291, p = .713$) or significance loss, regulatory focus orientation, and narrative fusion ($b = -.128, t = -.291, p = .772$). Observed values are plotted in figure 7.7.

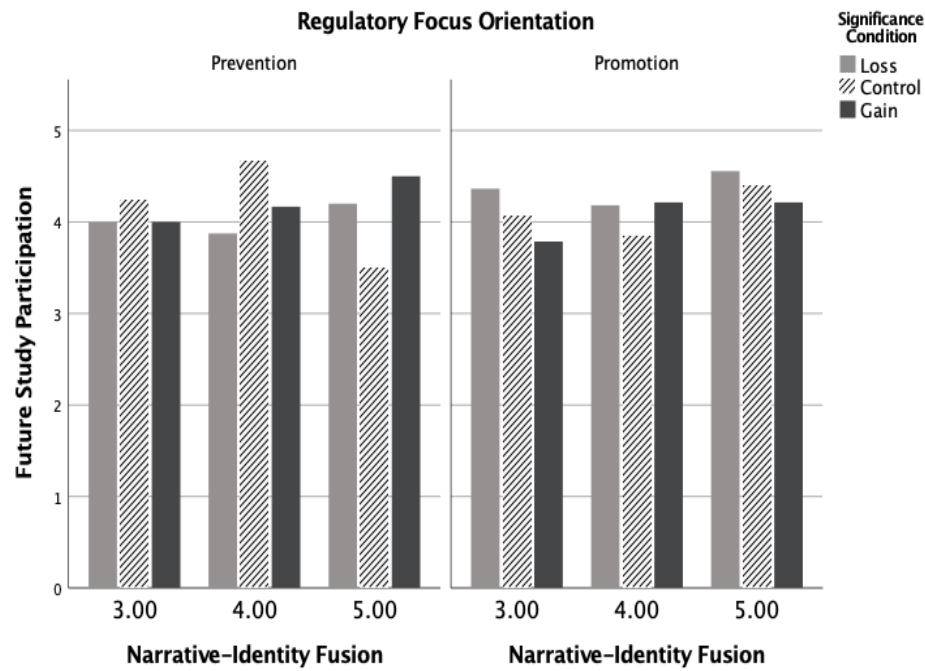


Figure 7.7 *Narrative Fusion and Participation in a Future Study*
 Note: Chart represents only individuals with high levels of network fusion

7.6. Discussion

The purpose of Study 4 was to investigate the unique role that narratives play in the radicalization process. Study 4 was designed to isolate the role of narratives within the 3N model of radicalization and examine the impact that narratives have on the willingness to engage in extreme behaviors involving sacrifice for a cause. It was predicted that when people experience significance loss or gain the saliency of an important narrative would increase the likelihood of engaging in extreme behaviors (Hypothesis 4.1). Additionally, I predicted that the impact of the need for significance and narrative saliency on a willingness to engage in extreme behaviors would be moderated by an individual's regulatory focus orientation (Hypothesis 4.2). More

specifically, I predicted that individuals with a prevention focus would be more willing to sacrifice after experiencing a *significance loss* and being exposed to an important narrative. I expected a similar willingness to sacrifice to occur for individuals with a promotion-focus when presented an opportunity for *significance gain* coupled with exposure to an important narrative.

The results from Study 4 did not find consistent evidence in support of the predictions that deprivation or incentivization of significance would interact with narrative saliency to increase a willingness to engage in extreme behaviors (Hypothesis 4.1). Participants who were primed with a loss or gain of significance and were primed with an important narrative were no more likely to sacrifice for one's friends or to volunteer to participate in a future study than those in the control condition. Additionally, there was no evidence to support the prediction that extreme behaviors are moderated by an individual's regulatory focus orientation when experiencing significance deprivation or incentivization and when an important narrative has been made salient (Hypothesis 4.2).

The results of the manipulation check in Study 4 indicate that the manipulation of both significance gain and significance loss were effective, yet there was no hypothesized effect on the dependent variables of interest. The magnitude in which the manipulation groups differed from the control group in both the loss and gain groups were significant, albeit not substantial. Despite the limited impact of the manipulation of significance, there was an interesting main effect of the manipulation of significance loss. Participants were more likely to be willing to sacrifice for a cause after being primed with significance loss. This result provides some evidence that the writing tasks

used to manipulate the need for significance can be effective in producing an increased willingness to sacrifice. However, the manipulations need to be sharpened to produce a stronger effect when priming significance loss or gain in future studies.

Consistent with the findings of studies 2 and 3, the data from Study 4 show that promotion-oriented individuals are more likely to engage in extreme behaviors. In particular promotion-focused participants were more willing to sacrifice for a cause than prevention-oriented individuals. Additionally, the data show that participants who were prevention-focused and had an important narrative made salient were more likely to participate in a future study compared to those in the control condition. As a whole, the findings in Study 4 provide mixed support to the notion that an individual's regulatory focus orientation moderates the relationship between needs and narratives and a willingness to engage in extreme behaviors. While not predicted, the finding that promotion-oriented individuals are more likely to engage in extreme behaviors, such as sacrificing for a cause, is of interest and will be examined in further detail in the General Discussion.

The analysis of narrative-identity fusion sheds light on one factor that may help explain the impact that a narrative might have on a willingness to sacrifice. The data show that the more tightly a narrative is fused with a person's identity, the more likely they are willing to sacrifice for a cause. Additionally, a willingness to sacrifice for a cause was higher for those in the loss condition with a strong narrative-identity fusion who experienced significance loss compared to the control condition. This provides partial support to hypothesis 4.2 and suggests that the degree to which a narrative is fused with a person's identity may be a key factor in promoting a willingness to engage

in extreme actions. This finding is consistent with those from study 3 regarding network-identity fusion and may point to a key factor that unlocks a willingness to engage in extremism.

To date, there is limited empirical evidence about how narratives influence people following significance loss or gain and the present study attempted to fill that gap. Unfortunately, the findings do not show support for the initial hypotheses regarding the relationship between needs, narratives, and regulatory focus orientation on the willingness to sacrifice. Some suggestive findings did emerge, however particularly with respect to the fusion variable and also with respect to regulatory focus. These will be addressed more fully in the General Discussion section.

Chapter 8: General Discussion and Implications

The 3N model of radicalization has proven to be a significant step forward in understanding the psychological factors that lead individuals to commit acts of extreme violence or terrorism. In developing the model, researchers have interviewed former members of terror organizations and collected data consistent with the model. However, some of the model's claims have remained unexamined thus far. In particular, there has been limited empirical evidence for the claim that both significance loss and an opportunity for significance gain can initiate the quest for significance. This dissertation sought to fill that gap in knowledge by developing a manipulation for significance gain that could be used in laboratory studies. Across four studies, the various components of the 3N model were examined to identify the unique role that needs, narratives, and networks play in the radicalization process. In the first study, I explored the degree to which several value-affording sources are related to the need for significance. In the second study, I investigated whether significance incentivization or deprivation can increase a willingness to engage in extreme behaviors. Then, in the third and fourth studies, I tested the role that networks and narratives have in motivating extreme behaviors following deprivation or incentivization of significance. In addition to testing the components of the 3N model of radicalization, I also hoped to identify a possible moderator of the manner of significance quest activation namely participants' regulatory focus orientation. Because people's prevention or promotion foci have a strong influence on how people approach their goals or end states, it is important to investigate how this orientation might interact with loss or gain of significance to

increase a willingness to engage in extreme behavior. While not conclusive, the results of the studies provided mixed support for the goals of this dissertation.

The findings from Study 1 provided support for the prediction that value-affording sources would be positively related to a need for significance (Hypothesis 1.1). A positive correlation was observed between the need for significance and a willingness to sacrifice, suggesting that the more a person has a desire to matter or to be valued, the more likely they are to sacrifice for an important cause or for their close friends. This finding implies that sacrificing for an important cause or one's network is a means that people can use to fulfill a need or desire for significance.

When examining the relationship between moral foundations and the need for significance, a positive relationship was found for Care and Fairness, two of the five dimensions of Moral Foundations (Graham, Haidt, & Nosek, 2008). No relationship was observed between the dimensions of Loyalty, Authority, and Purity and the need for significance. It is important to note that the panel of subjects who participated in the study were a predominantly liberal group. Therefore, it was not entirely surprising that the moral foundations of Care and Fairness were positively related to the need for significance while there was no observed relationship for the dimensions of Loyalty, Authority, and Purity. Research has indicated that liberals typically derive a greater sense of their morality from the foundations of Care and Fairness, while conservatives derive their morality also from the foundations of Loyalty, Authority, and Purity (Haidt, 2012). As a result, given the demographics of the panel, it is unsurprising that there were stronger relationships with Care and Fairness and the need for significance. Furthermore, when examining the moral foundation that was most important for each

person, the data show that it was positively correlated with the need for significance. It appears then, that there is a strong connection between one's morality and a sense of significance and it is likely that by acting in ways that one deems moral results in an increased sense of significance. As a result, it is likely that a threat to one's morality or an incentivization to support one's morality could result in an increased willingness to engage in extreme behavior.

When further exploring the relationship between the need for significance and one's ideological orientation (i.e. conservatism or liberalism), the data show that people who are more moderate in their ideological orientation have a higher desire for significance. This finding was counter to the prediction that those who have more extreme conservative or liberal ideologies would have a higher need for significance. One possible explanation for this finding is that perhaps those who have already adopted extreme political views or orientations have already satiated their need for significance through their commitment or dedication to their political views. As a result, perhaps their more extreme political views have resulted in feeling less desirous for increased significance than those who are politically moderate.

Overall, Study 1 provided evidence supporting the prediction that value-affording sources would be positively related to a need for significance. However, due to the correlational design of Study 1, few causal implications can be drawn in regards to how sources of significance can lead to a willingness to engage in extreme behavior. In order to examine this process, three additional studies were conducted.

Prior to experimentally testing the 3N model of radicalization it was important to first develop and test a manipulation of significance gain. To date, there has not been

a manipulation of significance gain that has been used in a laboratory setting. In order to address this gap, a writing task was developed that aimed to prime significance incentivization. The priming task asked participants to name a personal hero and then describe in a short paragraph how that person inspires and motivates them. When compared to participants who wrote about the last time they watched television, participants who wrote about a hero felt substantially more significant. I took it as a confirmation of the suitability of the significance gain manipulation that justified its use in the remaining three studies of the dissertation. Across Study 2, Study 3, and Study 4, the writing task used to manipulate significance incentivization did have the same effect on participants. The manipulation check used in each study following the priming of significance gain showed that participants felt substantially more important, proud, honored, and hopeful when compared to those in the control conditions. Therefore, the data from the pilot study and the subsequent three experimental studies that utilized the significance gain manipulation seemed to suggest that the manipulation had the intended impact on the participant's need for significance. Yet, there was minimal evidence of its impact on a willingness to engage in the extreme. Why might this have been the case? One potential explanation for this may be that rather than elevating participants' need for significance, my significance gain manipulation satisfied it, and made the participants feel significant, which may have reduced (rather than elevated) their quest for significance. In hindsight, a different manipulation check should have been used to assess participants questing for significance, such as the Quest for Significance Scale (Molinario et al., 2020) rather than the assessment of the current state of significance that was used in the manipulation check.

The results of Study 2 yielded mostly null effects. There was no support for the prediction that exposure to significance loss (Hypothesis 2.1a) or gain (Hypothesis 2.1b) would result in a higher likelihood of engaging in extreme behaviors. There were no observed effects of significance loss or gain on a willingness to sacrifice for a cause, for one's friends or one's time. Additionally, there were two observed instances supporting the prediction that regulatory focus orientation would moderate the willingness to engage in extreme behaviors after experiencing significance loss or gain (Hypothesis 2.2). The data show that participants who were promotion-focused and who were primed with significance gain were more likely to sacrifice for a cause and on the behalf of their close friends. While this result supported the general prediction that regulatory focus orientation would moderate the impact of the need for significance on the willingness to engage in extreme behaviors, this result was not present for the willingness to sacrifice one's time. Finally, while not predicted, one interesting finding from Study 2 was that an individual's regulatory focus orientation did impact the participation in extreme behaviors. A willingness to sacrifice for a cause was higher for individuals who were promotion-focused rather than prevention-focused. This finding was consistent in the subsequent two studies and the implication of this finding will be discussed in detail later.

One possible explanation for the null results of Study 2 is that the effect of the significance manipulation was not powerful enough to initiate a quest for significance despite the manipulation impacting the participants in the desired manner. It is also possible that the manipulation of significance gain satisfied the need for significance rather than initiating a questing for significance. Another possible explanation of the

lack of impact of the manipulation of significance on extreme behaviors can be attributed to the ongoing COVID-19 global pandemic. During the pandemic, people are faced with threats to their significance on a daily basis. Health experts have urged all people to socially distance themselves from others. The economy has been on the brink of a recession and unemployment rates are nearing all-time highs. As a result, people are faced with unprecedented threats to their individual and collective significance. One possible side effect of the pandemic is that participants may have been likely to suppress the negative states that were associated with the manipulation of significance and were not as likely to be affected by it in my studies.

Study 3 assessed the role that the network plays in the radicalization process and hoped to provide evidence that the saliency of an important network would interact with significance incentivization or deprivation to produce a willingness to engage in extreme behavior (Hypothesis 3.1). Further, it was predicted that this relationship would be moderated by individuals' regulatory focus orientation (Hypothesis 3.2). There was little evidence for these two hypotheses in Study 3, however, analysis of network fusion revealed interesting insights into the role of a network in the radicalization process and how it may be impacted by an individual's regulatory focus orientation.

The results of the manipulation of significance loss and significance gain were both effective and produced the desired feelings of significance in the participants. Those in the loss condition felt more humiliated and ashamed than those in the control condition, and those in the gain condition felt considerably more honored and prouder than those in the control condition. However, the impact of the manipulation of

significance on the willingness to engage in extreme behaviors was not observed. As with study 2, it is possible that the manipulation of significance was of insufficient magnitude to produce a motivational imbalance that results in the questing for significance. The lack of results from the manipulation in Study 3 reinforce the notion that the writing task used to manipulate the need for significance should be revisited in order to produce a more profound effect of the quest for significance in laboratory studies.

While there were no observed main effects of network saliency on the willingness to engage in the extreme, an analysis of network-identity fusion yielded interesting findings. Following the network saliency manipulation, participants answered a question designed to capture how fused their identity was with their network. Indeed, there was evidence that the more tightly fused a network is with a person's identity, the more willing they are to sacrifice for their friends. Further, this effect interacted with the need for significance such that those who experienced significance loss and were more tightly fused with their network were more likely to sacrifice on behalf of their friends. Providing partial support for hypothesis 3.2 the data show that promotion-focused participants who were in the significance gain condition and were tightly fused with their network were more willing to sacrifice for their friends. The examination of network-identity fusion shows that it is perhaps the degree to which one feels connected to a network that impacts their willingness to engage in extreme behaviors on behalf of that group, especially when they are promotion-focused and have been incentivized with an opportunity for significance gain. The overall findings of network-identity fusion show that it is likely that when a person is more

deeply connected to a network, they become more willing to engage in extreme behaviors on behalf of that group and that this process is moderated by their regulatory focus orientation.

In addition to the findings regarding network-identity fusion, Study 3 provided further evidence that individuals who are promotion-focused are more willing to engage in the extreme than prevention-focused individuals. The results of Study 3 show that promotion-focused participants were more likely to sacrifice for their friends compared to participants who were prevention-focused. These results are further evidence of the trend that was observed in Study 2 and will be discussed in depth later.

The fourth and final study used the same methodological framework that was used in Study 3, except its goal was to examine the unique role that narratives play in the radicalization process. There were limited results that supported the prediction that significance incentivization or deprivation would interact with narrative saliency to produce a willingness to engage in the extreme (Hypothesis 4.1). There was also mixed support for the prediction that an individuals' regulatory focus orientation would moderate the willingness to engage in extreme behaviors following the incentivization or deprivation of significance and after an important narrative has been made salient (Hypothesis 4.2).

As with the previous studies, the manipulation of significance via loss and gain achieved the hypothesized effects in Study 4. Participants in the loss condition felt considerably more ashamed, humiliated, and treated with less dignity than those in the control condition after writing about a humiliating experience in the past. Those in the significance gain condition felt far more proud, honored, and hopeful than those in the

control condition after writing about a personal hero and how that individual inspires and motivates them. The results of the manipulation check in Study 4, provide evidence that the manipulation for significance deprivation and incentivization had the intended impact on the participants' feelings of significance. However, it appears that the manipulation of significance was not powerful enough to create a motivational imbalance that resulted in extreme behaviors or that the manipulation itself satisfied a need for significance. Despite an observed impact on the participant's sense of significance, there were not consistent main effects of the manipulation of significance via loss or gain on a willingness to engage in extreme behavior. There was one observed instance of the need for significance impacting a willingness to sacrifice. Participants who were exposed to significance loss were more likely to sacrifice for a cause, but this was only evident when examining participants who were in the network saliency condition during the fusion analysis. Finally, there were also no observed effects of narrative saliency on extreme behaviors.

One interesting finding from Study 4 was the impact of an individual's regulatory focus orientation on the willingness to engage in extreme behaviors. Consistent with the results from studies 2 and 3, participants who were promotion-focused were more likely to self-sacrifice for a cause compared to prevention-focused participants.

The fourth study also provided evidence that the willingness to sacrifice for a cause is dependent on the extent that an important narrative is fused with a person's identity. The analysis of narrative-identity fusion shows that as a narrative becomes more tightly fused with one's identity, the more likely it is that a person is willing to

sacrifice for an important cause. Further, this relationship appears to be moderated by narrative fusion, such that when people experience significance loss and are fused with a narrative they are more likely to engage in the extreme. It appears then that the impact of an important narrative on the willingness to engage in extreme behavior is dependent not only upon how central a narrative is to one's identity but also on exposure to significance loss. It seems that the more a person embraces a given narrative or the values that it espouses, the more willing they become to sacrifice for its behalf.

Despite the lack of consistent significant findings, taken as a whole the four studies included in the present dissertation provided a reasonable test of the hypotheses described in the introduction. Study 1 provided evidence that value-affording sources are positively related to the need for significance. This finding importantly highlights a link between a person's values, typically spelled out in the narrative to which a person subscribes and their desire for significance. Therefore, in terms of motivating a willingness to engage in extreme behaviors, it is plausible to assume a quest for significance results in greater attention to narratives from which people derive their value. The remaining three studies yielded mixed evidence in support of the predictions that significance incentivization or deprivation would magnify a willingness to engage in extremism. There was also mixed evidence that network or narrative saliency interacts with significance incentivization or deprivation to produce extreme behaviors. Finally, there was some evidence supporting the prediction that a person's regulatory focus orientation would moderate a willingness to engage in extremism following a loss or gain of significance when an important narrative or network was made salient.

While the data did not consistently support the hypotheses, there were several promising results. Study 2 found that regulatory focus orientation does moderate the willingness to sacrifice for friends after being exposed to significance gain. Studies 3 and 4 found some evidence that exposure to significance gain can increase the willingness to sacrifice one's time to participate in a future study on social causes when it interacts with regulatory focus orientation or the saliency of a network or narrative. Therefore, it appears that there are cases in which significance incentivization can increase the willingness to engage in extreme behavior and that it may be moderated by one's regulatory focus orientation. Admittedly, however, the results failed to provide further support to these findings. Therefore, future studies can build off of the existing methodological framework used to study the 3N model to develop more refined and targeted studies on the radicalization process.

Theoretical Implications

While the overall findings from the four studies were mixed, there was some evidence concerning the unique roles that needs, narratives, and networks have in the radicalization process. Additionally, an important relationship between regulatory focus orientation and a willingness to engage in extreme behaviors was identified.

Prior to this dissertation, there had not been a useful manipulation of significance incentivization created for use in laboratory studies. A pilot study was conducted that validated the manipulation of significance gain, and three experimental studies implemented the manipulation of significance incentivization. The pilot study importantly validated that when participants were primed with significance gain they

had a higher desire for significance as measured by the Quest for Significance Scale (Molinario et al., 2020). Further, across three experimental studies participants who received the significance gain manipulation reported elevated feelings of pride, honor, and dignity compared to a control group. In hindsight, it appears that measuring feelings of significance may not have been an ideal method of assessing the intended impact of the significance gain manipulation. Thus, despite what appeared to be an effective manipulation of the need for significance it was not possible to determine whether the manipulation created a desire for significance or if it simply enhanced current feelings of significance. As a result, there was mixed evidence that the manipulation of significance gain led to an increased willingness to sacrifice. Further inquiry into the effect of the present manipulation of the quest for significance gain should be carried out in future research.

Despite the mixed results, across four studies, the findings supported various aspects of the 3N model of radicalization. The need for significance was found to be positively correlated with a willingness to sacrifice, suggesting that people often perceive sacrificial behaviors as a means with which one can receive significance. The role of networks were observed to influence a willingness to sacrifice for one's friends. Further, the findings suggest that the more connected one is with their network the more willing they become to sacrifice or engage in extreme behaviors on its behalf. Similar findings were found for the role of narratives and the impact they have on the propensity to engage in the extreme. The more fused a person's identity is with a given narrative, the more likely they are to sacrifice on behalf of a cause.

Finally, while not predicted, one of the most consistent findings in the present dissertation concerned the role of one's regulatory focus orientation on the willingness to engage in extreme behaviors. Across all three experimental studies, participants who were promotion-focused were found to be more likely to sacrifice for friends, sacrifice for a cause, and sacrifice their time to participate in a future study. According to Higgins (1997), promotion-focused individuals view goals as ideals that represent hopes, wishes, or aspirations. They typically adopt an eager strategic orientation towards goal-pursuit, one that is centered on gains, such that they approach gains and avoid non-gains. Such eagerness may dispose them to focus on significance gain and be ready to sacrifice other concerns on its behalf. In contrast, prevention-oriented individuals who are vigilant and on guard about a possibility of a loss may be less prone to sacrifice some of their needs because each sacrifice does entail a loss.

Future Directions

One of the main goals of the present dissertation was to develop a useful manipulation of significance gain for use in a laboratory setting. While the manipulation of significance gain showed effectiveness in the pilot study and three consecutive experimental studies, there is still room to sharpen the manipulation and to clarify its precise impact. While the pilot study measured a desire for significance, the manipulation checks used in the experimental studies assessed a current state of significance. As a result, it was unclear if the manipulation effectively pushed participants into a state in which they were questing for significance.

The present manipulation of significance also requires further study. Our results suggest that the manipulations did impact a desire for significance, but it was perhaps

not powerful enough to increase the readiness to engage in extreme behaviors. Therefore, it is important to continue to refine the present techniques used to for the deprivation and incentivization of significance in laboratory studies.

Another intriguing finding from the present dissertation was that when individuals' identities are more tightly fused with a network or a narrative they are more willing to engage in sacrificial behaviors. These findings though consistent with the present 3N model, should be studied further in particular reference to conditions and circumstances that induce fusion.

Finally, it appears that promotion-focused people are more willing to engage in extreme behaviors compared to those who are prevention-focused. Given their eager goal pursuit strategy, perhaps they are more prone to a state of motivational imbalance than those who are prevention-focused. Researchers have developed several tools used to induce regulatory focus orientations (Freitas & Higgins, 2002; Higgins et al., 2001; Higgins, Roney, Crowe, & Hymes, 1994) and it would be useful to examine how these inductions might push one towards a willingness to engage in the extreme. It is likely that when people are primed to adopt a promotion-focused state that they will develop a greater propensity to adopt a motivational imbalance that could lead to a willingness to engage in the extreme. In contrast, prevention-focused individuals are more likely to balance attention to all of their basic needs in order to avoid a loss of motivational equilibrium.

Conclusion

Research on the 3N model of radicalization is highly timely. Unfortunately, acts of extreme violence continue to occur with devastating effects. Just this past year an

18-year-old male drove his truck to a Walmart in El Paso Texas. After he arrived, he grabbed an AK-47 style automatic weapon and entered the store and began targeting and shooting Hispanic men, women, and children. In total 22 people were killed and many more were injured before law enforcement were able to subdue and apprehend the shooter. In the aftermath of the shooting, it became evident that Patrick Crusius had conducted the attack as he felt that the border crisis in the United States was threatening the very livelihood and values of Texas and the United States. This young man had been exposed to the hateful narrative that was written following the Christchurch, New Zealand mass shooting earlier this year which espoused hateful anti-immigrant rhetoric. This is but one case in which hateful narratives supported by significant networks have been linked to extreme violence, and there are reasons to believe there such unfortunate incidents will be even more frequent in the future. Therefore, it is imperative to continue to explore and seek to understand the impact that needs, networks, and narratives have in activating a quest for significance that results in a willingness to sacrifice for a cause. The present dissertation constitutes a step toward enhancing such understanding.

Through four studies, I sought to explore how different types of significance need activation can impact people's willingness to engage in extreme violence based on their prevention or promotion focus. The results provided mixed evidence supporting the prediction that the incentivization or deprivation of significance interacts with networks or narratives to produce a willingness to engage in extreme behaviors. Additionally, there were mixed results that this relationship was impacted by one's regulatory focus orientation. While the results were not conclusive, they

provided limited empirical support for the 3N model, and identify areas where additional inquiries into the phenomenon of extremism would be fruitful.

By understanding the key drivers of the radicalization process we can begin to identify key risk factors that render individuals prone to extreme behaviors. As a result, researchers can then potentially highlight or inform more targeted interventions aimed at deradicalization or counter-radicalization. The present dissertation constitutes a step toward that objective.

Appendices

Appendix A: List of Hypotheses

Hypothesis 1.1:

- An individual's quest for significance would be positively correlated with value affording sources and a willingness to self-sacrifice

Hypothesis 2.1:

- When people experience a loss of significance or opportunity for significance gain they will be more willing to engage in extreme behaviors.

Hypothesis 2.2:

- The willingness to engage in extreme behaviors following a significance loss or gain will be moderated by an individual's regulatory focus orientation.

Hypothesis 3.1:

- The saliency of an important network would elicit a higher readiness of sacrificing for one's friends and to be more willing to participate in a future study following significance deprivation or incentivization.

Hypothesis 3.2:

- Regulatory focus orientation will moderate the readiness that one has to sacrifice for one's friends or sacrifice one's time to participate in a future study following significance incentivization or deprivation and after an important network has been made salient.

Hypothesis 4.1:

- The saliency of an important narrative would elicit a higher readiness of sacrificing for one's friends and to be more willing to participate in a future study following significance deprivation or incentivization.

Hypothesis 4.2:

- Regulatory focus orientation will moderate the readiness that one has to sacrifice for one's friends or sacrifice one's time to participate in a future study following significance incentivization or deprivation and after an important narrative has been made salient.

Appendix B: Quest for Significance Scale

MEASURES OF SIGNIFICANCE

1-7 Likert Scale – Strongly Agree; Agree; Somewhat Agree; Neither Agree or Disagree; Somewhat Disagree; Disagree; Strongly Disagree

Desired state

I wish I could be more respected
I want to be more valued by people who are important to me.
I want to be more valued by society.
I wish I was more appreciated by other people
I wish other people accepted me more.
I want more people to care about me.
I wish I meant more to other people.
I wish other people thought I was significant.
I have a strong need to be appreciated by other people.

Appendix C: Ideological Consistency Scale

Now you will read several pairs of statements that will help us understand how you feel about a number of things. As you read each pair, tell us whether the FIRST statement or the SECOND statement comes closer to your own views — even if neither is exactly right.

Items in the Ideological Consistency Scale

Question #	Conservative Position	[OR]	Liberal Position
Q25a	Government is almost always wasteful and inefficient		Government often does a better job than people give it credit for
Q25b	Government regulation of business usually does more harm than good		Government regulation of business is necessary to protect the public interest
Q25c	Poor people today have it easy because they can get government benefits without doing anything in return		Poor people have hard lives because government benefits don't go far enough to help them live decently
Q25d	The government today can't afford to do much more to help the needy		The government should do more to help needy Americans, even if it means going deeper into debt
Q25f	Blacks who can't get ahead in this country are mostly responsible for their own condition		Racial discrimination is the main reason why many black people can't get ahead these days
Q25g	Immigrants today are a burden on our country because they take our jobs, housing and health care		Immigrants today strengthen our country because of their hard work and talents
Q25i	The best way to ensure peace is through military strength		Good diplomacy is the best way to ensure peace
Q25n	Most corporations make a fair and reasonable amount of profit		Business corporations make too much profit
Q50r	Stricter environmental laws and regulations cost too many jobs and hurt the economy		Stricter environmental laws and regulations are worth the cost
Q50u	Homosexuality should be discouraged by society		Homosexuality should be accepted by society

Source: 2014 Political Polarization in the American Public.

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Individual questions were recoded as follows: “-1” for a liberal response, “+1” for a conservative response, “0” for other (don’t know/refused/volunteered) responses. As a result, scores on the full scale range from -10 (liberal responses to all 10 questions) to +10 (conservative responses to all 10 questions).

Appendix D: Moral Foundations Questionnaire

Part 1. When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

[0] = not at all relevant (This consideration has nothing to do with my judgments of right and wrong)
[1] = not very relevant
[2] = slightly relevant
[3] = somewhat relevant
[4] = very relevant
[5] = extremely relevant (This is one of the most important factors when I judge right and wrong)

- _____ Whether or not someone suffered emotionally
- _____ Whether or not some people were treated differently than others
- _____ Whether or not someone's action showed love for his or her country
- _____ Whether or not someone showed a lack of respect for authority
- _____ Whether or not someone violated standards of purity and decency
- _____ Whether or not someone was good at math
- _____ Whether or not someone cared for someone weak or vulnerable
- _____ Whether or not someone acted unfairly
- _____ Whether or not someone did something to betray his or her group
- _____ Whether or not someone conformed to the traditions of society
- _____ Whether or not someone did something disgusting
- _____ Whether or not someone was cruel
- _____ Whether or not someone was denied his or her rights
- _____ Whether or not someone showed a lack of loyalty
- _____ Whether or not an action caused chaos or disorder
- _____ Whether or not someone acted in a way that God would approve of

Part 2. Please read the following sentences and indicate your agreement or disagreement:

[0]	[1]	[2]	[3]	[4]	[5]
Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree

_____ Compassion for those who are suffering is the most crucial virtue.

_____ When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

_____ I am proud of my country's history.

_____ Respect for authority is something all children need to learn.

_____ People should not do things that are disgusting, even if no one is harmed.

_____ It is better to do good than to do bad.

_____ One of the worst things a person could do is hurt a defenseless animal.

_____ Justice is the most important requirement for a society.

_____ People should be loyal to their family members, even when they have done something wrong.

_____ Men and women each have different roles to play in society.

_____ I would call some acts wrong on the grounds that they are unnatural.

_____ It can never be right to kill a human being.

_____ I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

_____ It is more important to be a team player than to express oneself.

_____ If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

_____ Chastity is an important and valuable virtue.

Appendix E: Self-Sacrifice Scale

Please indicate a cause that is very dear to you:

My cause is: _____

While thinking of your cause, read each of the following statements and decide how much you agree with each according to your beliefs and experiences. Please respond according to the following scale:

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Not Agree	Very Slightly	Slightly	Moderately	Mostly	Strongly	Very Strongly
At All	Agree	Agree	Agree	Agree	Agree	Agree

1. It is senseless to sacrifice one's life for a cause. (R)
2. I would defend a cause to which I am truly committed even if my loved ones rejected me.
3. I would be prepared to endure intense suffering if it meant defending an important cause.
4. I would not risk my life for a highly important cause.
5. There is a limit to what one can sacrifice for an important cause.
6. My life is more important than any cause. (R)
7. I would be ready to give my life for a cause that is extremely dear to me.
8. I would be willing to give away all my belongings to support an important cause.
9. I would not be ready to give my life away for an important cause.
10. I would be ready to give up all my personal wealth for an important cause.

Appendix F: Regulatory Focus Questionnaire

1. Compared to most people, are you typically unable to get what you want out of life?
2. Growing up, would you ever “cross the line” by doing things that your parents would not tolerate?
3. How often have you accomplished things that got you "psyched" to work even harder?
4. Did you get on your parents' nerves often when you were growing up?
5. How often did you obey rules and regulations that were established by your parents?
6. Growing up, did you ever act in ways that your parents thought were objectionable?
7. Do you often do well at different things that you try?
8. Not being careful enough has gotten me into trouble at times.
9. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.
10. I feel like I have made progress toward being successful in my life.
11. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

RFQ Scoring Key:

$$\text{Promotion} = [(6 - Q1) + Q3 + Q7 + (6 - Q9) + Q10 + (6 - Q11)] / 6$$

$$\text{Prevention} = [(6 - Q2) + (6 - Q4) + Q5 + (6 - Q6) + (6 - Q8)] / 5$$

$$\text{RF} = \text{promotion} - \text{prevention}$$

Appendix G: Need for Significance Manipulations

Significance Loss:

To learn more about how people recall past information, we'd like you to write about a personal experience you have had.

Specifically, we would like you to think back to a situation in which you felt humiliated and ashamed because (you felt like) people were laughing at you. While recalling, please provide a detailed description of how you felt during this situation, who was involved, and what happened to make you feel that way.

If you have never experienced a situation like this, please think about a similar situation that someone you care about deeply, like a child, spouse, or a family member, may have gone through. While describing the situation and what occurred, try to "walk in the shoes" of this individual, and describe how you think he/she would have felt.

What happened?
Who was involved?
How did it make you feel?

Significance Gain – Hero Condition:

We'd like to learn about someone who inspires you.

Please think of a hero whom you admire and who inspires you.

Who is your hero?

While imagining this person, please write a paragraph that provides a detailed description of why this person inspires you and how they influence your hopes and aspirations.

Specifically describe how they influence your goals.

Significance Gain – Accomplishment Condition:

To learn more about people’s goals, we'd like you to write about something you would like to accomplish.

Specifically, we would like you to imagine you are given an opportunity in which you can achieve individual greatness, but it will require extraordinary dedication and perseverance. If you succeed, you will be viewed as a role model in your community. Someone who is highly valued and worthy of praise and honor.

While imagining this scenario, please provide a detailed description of how you would feel during this situation, who would be involved, and what would happen to make you feel that way.

What would happen?

Who would be involved?

How would it make you feel?

Control:

To learn more about how people recall past information, we'd like you to write about a personal experience you have had.

Specifically, we would like you to think back to the last time you watched television. While recalling, please provide a detailed description of what you watched, the characters in the show, and how the show made you feel.

Please Provide a detailed description of what you watched and how you felt while watching the show.

Appendix H: Network Manipulations

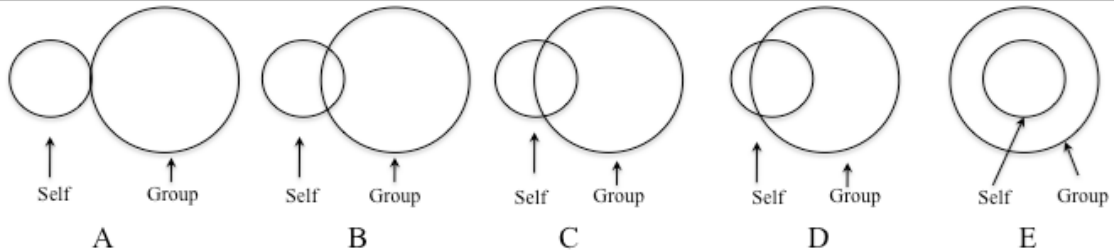
Network Prime:

1. Please name a group which embraces values that are very important to you:

My group is: _____

2. Now, we would like you to write a short list of 5-10 people who represent, identify with, or are associated with the group you listed.

3. Please circle the letter below the picture that best represents your relationship with the group you previously listed.



Control:

2. Please list 5 of your favorite foods you like to eat:

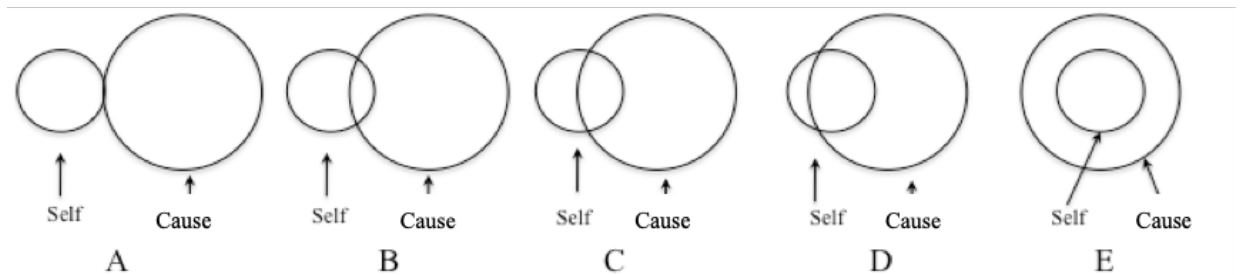
Appendix I: Narrative Manipulations

1. Please indicate a cause that embodies values that are very sacred to you:

My cause is: _____

2. Now, we would like you to write a brief paragraph describing why the cause is important to you. More specifically what values or ideals associated with the cause are important to you?

3. Please circle the letter below the picture that best represents your relationship with this cause.



Control:

1. Please name your favorite food to eat:

My favorite food is: _____

2. Please tell us when the last time you ate this food.

Bibliography

- Adib-Moghaddam, A. (2005). Islamic Utopian Romanticism and the Foreign Policy Culture of Iran. *Critique: Critical Middle Eastern Studies*, 14(3), 265-292.
- Atkinson, J. W. (1964). *An introduction to motivation*. Oxford, England: Van Nostrand.
- Atran, S. (2003). The Genesis of Suicide Terrorism. *Science (New York, N.Y.)*, 299, 1534-1539. doi:10.1126/science.1078854
- Atran, S., Axelrod, R., & Davis, R. (2007). Social science. Sacred barriers to conflict resolution. *Science (New York, N.Y.)*, 317(5841), 1039-1040.
- Atran, S., & Sageman, M. (2006). Connecting the Dots. *Bulletin of the Atomic Scientists*, 62(4), 68-68. doi:10.2968/062004018
- Atran, S., & Sheikh, H. (2015). Dangerous terrorists as devoted actors. In *Evolutionary perspectives on social psychology*. (pp. 401-416). Cham, Switzerland: Springer International Publishing.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.
- Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control*. New York, NY, England: McGraw-Hill Book Company.
- Bélanger, J. J., Caouette, J., Sharvit, K., & Dugas, M. (2014). The psychology of martyrdom: Making the ultimate sacrifice in the name of a cause. *Journal of Personality and Social Psychology*, 107(3), 494-515. doi:10.1037/a0036855
- Carver, C. S., & Scheier, M. F. (1981). Self-consciousness and reactance. *Journal of Research in Personality*, 15(1), 16-29. doi:https://doi.org/10.1016/0092-6566(81)90003-9
- Center, P. R. (2014). The Ideological Consistency Scale.
- Center, P. R. (2017). The Partisan Divide on Political Values Grows Even Wider. In Pew Research Center, Washington.D.C.
- Crayton, J. W. (1983). Terrorism and the psychology of the self. In L. Z. A. Freedman, Y. (Ed.), *Perspectives on Terrorism* (pp. 33-41). Wilmington, DE: Scholarly Resources.
- Dean, G. (2007). Criminal profiling in a terrorism context. In *Criminal profiling: International theory, research, and practice*. (pp. 169-188). Totowa, NJ, US: Humana Press.
- Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), 227-268.
- Dehghani, M., Atran, S., Iliev, R., Sachdeva, S., Medin, D., & Ginges, J. (2010). Sacred Values and Conflict over Iran's Nuclear Program. *Judgment and Decision Making*, 5.
- Della Porta, D. (2006). *Social movements, political violence, and the state: A comparative analysis of Italy and Germany*. Cambridge University Press.
- Della Porta, D. (2013). *Clandestine political violence*. Cambridge University Press.

- Enders, W., & Su, X. (2007). Rational Terrorists and Optimal Network Structure. *Journal of Conflict Resolution*, 51(1), 33-57.
doi:10.1177/0022002706296155
- Erikson, E. H. (1959). *Identity and the life cycle: selected papers*. Oxford, England: International Universities Press.
- Ferracuti, F., & Bruno, F. (1981). *Psychiatric Aspects of Terrorism in Italy (From Mad, the Bad, and the Different)* (Vol. New York, NY): Lexington Books.
- Fiske, S. T. (2013). *Social beings : social core motives in social psychology* (Third edition. ed.). Hoboken, New Jersey :: John Wiley and Sons, Inc.
- Freitas, A.L., & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science*, 13, 1-6.
- Gabbard, G. O. (2000). On Gratitude and Gratification. *Journal of the American Psychoanalytic Association*, 48(3), 697-716.
doi:10.1177/00030651000480030901
- Ginges, J., Atran, S., Medin, D., & Shikaki, K. (2007). Sacred bounds on rational resolution of violent political conflict. *Proceedings of the National Academy of Sciences of the United States of America*, 104(18), 7357-7360.
doi:10.1073/pnas.0701768104
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of personality and social psychology*, 101(2), 366.
- Haidt, Jonathan (2012). *The Righteous Mind: Why Good People are Divided by Politics and Religion*. New York: Pantheon Books. pp. 9–11. ISBN 978-0-307-37790-6.
- Harary, F., & Norman, R. Z. (1960). Graph Theory as a Mathematical Model in Social Science. *Bulletin de l'Institut de recherches économiques et sociales*, 26(8), 737-737. doi:10.1017/S1373971900075089
- Hardin, C. D., & Higgins, E. T. (1996). Shared reality: How social verification makes the subjective objective. In R. M. Sorrentino & T. E. H. (Eds.) (Eds.), *Handbook of motivation and cognition* (Vol. 2, pp. 28-84). New York, NY: Guilford Press.
- Higgins, E. T. (1997). Beyond pleasure and pain. *The American psychologist*, 52 12, 1280-1300.
- Higgins, E. T. (1999). Promotion and prevention as a motivational duality: Implications for evaluative processes. In *Dual-process theories in social psychology*. (pp. 503-525). New York, NY, US: Guilford Press.
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, 31(1), 3-23. doi:10.1002/ejsp.27
- Higgins, E.T., Roney, C.J., Crowe, E., & Hymes, C. (1994). Ideal versus ought predilections for approach and avoidance distinct self-regulatory systems. *Journal of Personality and Social Psychology*, 66, 276-286.
- Horgan, J. (2008). From Profiles to Pathways and Roots to Routes: Perspectives from Psychology on Radicalization into Terrorism. *The ANNALS of the American*

- Academy of Political and Social Science*, 618(1), 80-94.
doi:10.1177/0002716208317539
- Horgan, J. G., & Horgan, J. (2004). *The psychology of terrorism*: Routledge.
- Hulley, S. B., Newman, T. B., & Cummings, S. R. (2013). Planning the measurements: precision, accuracy, and validity. *Designing Clinical Research*. 4th ed. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins, 32-42.
- Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, 129(3), 339–375. <https://doi.org/10.1037/0033-2909.129.3.339>
- Kahneman, D., Diener, E., & Schwarz, N. (1999). *Well-being: The foundations of hedonic psychology*. New York, NY, US: Russell Sage Foundation.
- Kirk, R., & E, R. (2011). Kirk, R. E. (2012). Experimental design. In I. B. Weiner (Series Ed.) and J. Schinka & W. F. Velicer (Vol. Eds.), *Handbook of psychology*: Vol. 2. Research methods in psychology (2nd ed.). New York, NY: Wiley. In.
- Kohut, H. (1972). Thoughts on narcissism and narcissistic rage. *The Psychoanalytic Study of the Child*, 27, 360-400.
- Kohut, H., & Wolf, E. S. (1978). The disorders of the self and their treatment: An outline. *The International Journal of Psychoanalysis*, 59(4), 413-425.
- Kruglanski, A., Jasko, K., Webber, D., Chernikova, M., & Molinario, E. (2018). *The Making of Violent Extremists*.
- Kruglanski, A. W., Bélanger, J. J., Gelfand, M., Gunaratna, R., Hettiarachchi, M., Reinares, F., . . . Sharvit, K. (2013). Terrorism--a (self) love story: redirecting the significance quest can end violence. *The American psychologist*, 68(7), 559-575.
- Kruglanski, A. W., Chen, X., Dechesne, M., Fishman, S., & Orehek, E. (2009). Fully Committed: Suicide Bombers' Motivation and the Quest for Personal Significance. *Political Psychology*, 30(3), 331-357.
- Kruglanski, A. W., Crenshaw, M., Post, J. M., & Victoroff, J. (2008). Talking about Terrorism. *Scientific American Mind*, 19(5), 58-65.
- Kruglanski, A. W., Gelfand, M. J., Bélanger, J. J., Sheveland, A., Hetiarachchi, M., & Gunaratna, R. (2014). The Psychology of Radicalization and Deradicalization: How Significance Quest Impacts Violent Extremism. *Political Psychology*, 35, 69-93.
- Kruglanski, A. W., Jasko, K., Chernikova, M., Dugas, M., & Webber, D. (2017). To the fringe and back: Violent extremism and the psychology of deviance. *The American psychologist*, 72(3), 217-230.
- Lankford, A. (2012). A Comparative Analysis of Suicide Terrorists and Rampage, Workplace, and School Shooters in the United States From 1990 to 2010. *Homicide Studies*, 17(3), 255-274. doi:10.1177/1088767912462033
- Lewin, K. (1935). *A dynamic theory of personality*. New York, NY, US: McGraw-Hill.
- Maslow, A., H. (1943). A Theory of Human Motivation. *Psychology Review*, 50(n4), 370-396.

- McAllister, B. (2004). Al Qaeda and the Innovative Firm: Demythologizing the Network. *Studies in Conflict & Terrorism*, 27(4), 297-319. doi:10.1080/10576100490461123
- Merriam-Webster, I. (1986). *Webster's ninth new collegiate dictionary*. Springfield, Mass., U.S.A. :: Merriam-Webster.
- Morf, G. (1970). Terror in Quebec: Case Studies of the FLQ. In. Toronto, ON: Clarke, Irwin.
- Molinario, E., Elster, A., Kruglanski, A.W., Webber, D., Jaško, K., Leander, P., Sensales, G., Szumowska, E., Jaume, L. (in preparation). Striving for Significance: Development and Validation of the Quest for Significance Scale.
- Nisbett, R. E., & Cohen, D. (1996). *Culture of honor: The psychology of violence in the South*. Boulder, CO, US: Westview Press.
- Pape, R. (2005). *Dying to Win: The Strategic Logic of Suicide Terrorism*.
- Pedahzur, A. (2005). *Suicide terrorism*. Cambridge :: Polity.
- Post, J. M. (2007). *The mind of the terrorist : the psychology of terrorism from the IRA to Al Qaeda* (1st ed. ed.). New York :: Palgrave Macmillan.
- Post, J. M., Ali, F., Henderson, S. W., Shanfield, S., Victoroff, J., & Weine, S. (2009). The Psychology of Suicide Terrorism. *Psychiatry: Interpersonal and Biological Processes*, 72(1), 13-31. doi:10.1521/psyc.2009.72.1.13
- Raufer, X. (2003). Al Qaeda: A Different Diagnosis. *Studies in Conflict & Terrorism*, 26(6), 391-398. doi:10.1080/10576100390248266
- Ressler, S. (2006). Social Network Analysis as an Approach to Combat Terrorism: Past, Present, and Future Research. *Homeland Security Affairs*, 2.
- Robins, R. S., & Post, J. M. (1997). *Political Paranoia The Psychopolitics of Hatred*: Yale University Press.
- Sageman, M. (2004). *Understanding Terror Networks*: University of Pennsylvania Press.
- Sageman, M. (2008). A Strategy for Fighting International Islamist Terrorists. *The ANNALS of the American Academy of Political and Social Science*, 618(1), 223-231. doi:10.1177/0002716208317051
- Swann, W. B., Jr., Gómez, A., Seyle, D. C., Morales, J. F., & Huici, C. (2009). Identity fusion: the interplay of personal and social identities in extreme group behavior. *Journal of personality and social psychology*, 96(5), 995-1011.
- Tajfel, H., Turner, J. C., Austin, W. G., & Worchel, S. (1979). An integrative theory of intergroup conflict. *Organizational identity: A reader*, 56-65.
- Tetlock, P. E. (2000). Political Paranoia: The Psychopolitics of Hatred. By Robert S. Robins and Jerrold M. Post. New Haven, CT: Yale University Press, 1997. 366p. \$30.00. *American Political Science Review*, 94(3), 753-754. doi:10.2307/2585894
- Tutte, W. T. (1971). Book Reviews. *Bulletin of the London Mathematical Society*, 3(2), 253-254. doi:10.1112/blms/3.2.253
- Webber, D., Schimel, J., Martens, A., Hayes, J., & Faucher, E. H. (2013). Using a bug-killing paradigm to understand how social validation and invalidation affect the distress of killing. *Personality & social psychology bulletin*, 39(4), 470-48