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The Effects of the Big Five Personality Factors and Adverse Childhood Events on Leadership Emergence in an Online Violence Prevention Discussion Group

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THE EFFECTS OF THE BIG FIVE PERSONALITY FACTORS

AND ADVERSE CHILDHOOD EVENTS ON LEADERSHIP EMERGENCE

IN AN ONLINE VIOLENCE PREVENTION DISCUSSION GROUP

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Title: The Effects of the Big Five Personality Factors and Adverse Childhood Events on
         Leadership Emergence in an Online Violence Prevention Discussion Group

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Though various Big Five personality traits have been shown to be predictive of Emergent Leadership emergence within in person groups, the link between these had remained largely unstudied in online situations. Additionally researchers have found that situational factors can influence the expression of personality factors to a large extent. This study investigated the effects of the Big Five personality traits and Adverse Childhood Experiences on Leadership Emergence in an online violence prevention discussion group. Researchers administered the Big Five Inventory (BFI) and Adverse Childhood Experiences (ACEs) Scale. A two-step hierarchical equation model, controlling for age and gender, was then utilized in order to examine correlations between these variables and the average amount or responses to original posts, which in this case was utilized as a measure of emergent leadership, made by 49 group participants. Results were insignificant in all cases. Possible reasons for the lack of significant findings and recommendations for future researchers, such as a more refine personality measure and partial site moderation, are discussed.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

What makes a leader? Though this question has been proposed throughout history, researchers have only recently begun to collect empirical data to answer this question (Judge, Erez, Bono, & Thoresen, 2002). Of particular interest in the research community is the link between personality and leadership emergence. Personality traits and other individual differences have been shown to be predictive of leadership emergence in group situations such as leaderless group discussions (Cogliser, Gardener, Gavin, & Broberg, 2002), student groups (Emery, Calvard, & Pierce, 2013), problem solving groups (Won, 2006), non-profit groups, and multinational corporations (House & Aditya, 1997). However, this research has generally been conducted in face-to-face situations, ignoring the possible contextual differences in how individuals interact in computer-mediated environments.

Workplaces now rely on an ever increasing amount of computer-mediated communication, such as emails, texts, discussion boards, and online groups, for accomplishing a variety of work tasks. This has become more common as more organizations allow employees to telecommute part-time or even full-time (Reaney, 2012). While social networking has gained plenty of media attention, there has been very little serious scholarship regarding the interaction between well-studied psychological constructs and modern social networks. The need for such research is important considering the impact that social networks have on society. For example, the Arab Spring demonstrated the importance of leadership on anonymous online forums in relation to major social uprisings (Howard, Duffy, Freelon, Hussain, Mari, & Mazaid, 2011). Leadership emergence, and the personality characteristics that predict it, might operate very

differently in the context of online versus face-to-face groups. As such, the goal of the current study was to provide a preliminary investigation of the relationship between personality characteristics and leadership emergence in an online discussion group.

An overview of the leadership literature suggests that the qualities leaders exhibit vary greatly depending upon the situation in question (Judge et al., 2002b). For instance, skills that define leadership on the battlefield should differ greatly from those that make a sensible facilitator of an academic panel. Each situation has its own demand characteristics, or "active ingredients." These ingredients are as important or more important in determining an individual's actions in a given situation as the effects of internal psychological traits (Mischel, Shoda, & Mendoza-Denton 2002). Though the search for the "active ingredients" of a situation has begun (Mischel et al., 2002) these elements are not well enough understood to predict how a person with certain personality traits will behave in an online context (Huffaker, 2010). The specific situation in which this study was conducted was the online violence prevention group, <u>We Can Prevent Violence,</u> which was populated by students taking one or more of several classes at the Indiana University of Pennsylvannia. While the group's topic was violence prevention, it also provided a place to extend class discussion outside of classroom hours in order to create an educational extension of course discussions for Introductory Psychology, Psychology of Women , Human Sexuality, and Poly-victimization Across the Lifespan courses.

Online interactions have become an increasingly prevalent part of day-to-day life, making it an important situation to be investigated for those attempting to understand how individuals develop leadership roles. The manner in which people connect has changed dramatically in the past decade, as 73 percent of American adults currently have a profile of some sort on at least one social networking site (Brenner & Smith, 2013). There have been a number of studies

focusing on the relationship between personality and internet use (Correa, Hinsley, & Zuniga, 2010; Amichai-Hamburger, 2002; Blumer & Renneberg, 2010; Ellison, Steinfield, & Lamp, 2007; Ross, Orr, Sisic, Arseneault, Simmering, & Orr, 2009). Early studies found that introverted individuals participated more in online interactions than others (Ellison et al., 2007 and Ross et al., 2009). However, the results of more recent studies show that extroverted individuals have begun to find the internet to be a valuable tool for expanding their social lives. With the rise of social networks such as Myspace and Facebook, extroverted individuals have begun to use online resources to a higher degree than individuals low in extraversion (Ross et al., 2009). This suggests that, in a context as mutable as online interaction, research that was accurate only ten years ago may not necessarily be valid today. The dynamic nature of this technology, combined with the paucity of current online leadership scholarship, has led to a poor understanding of social interaction on the internet.

Of the studies that currently do exist on this topic (Huffaker, 2010; Sudweeks, McLaughlin, & Rafaeli, 1998; Cassell, Huffaker, Tversky, & Ferriman, 2006), few have had the ability to gather information regarding participants of online discussion groups in aspects other than their comments within the group and data readily available on online profiles (due to the anonymous nature of many online communities). This means that connecting data on online interaction with personality measures has, up to this point, not been possible in most cases.

While studies have shown that individuals participating in online discussions use tactics that differ from leaders in other situations, such as the tendency of online leaders to synthesize and integrate the arguments of others rather than to simply provide their own unique ideas (Huffaker, 2010), these types of observations could be more fully fleshed out if they were connected to valid and reliable measures of personality.

The five factor model of personality, also known as the Big Five, has provided researchers with a common model to study personality. The Big Five is a generally accepted atheoretical 5 factor model of personality (Digman, 1990). This model is made up of 5 broad personality dimensions; Extraversion, Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. The Big Five has been used to investigate aspects of leadership in divergent situations from non-profit groups to multi-national corporations (House & Aditya, 1997).

Using various self-report measures, such as the Big Five Inventory and the NEO personality inventory, researchers have been able to study the effects of personality on a multitude of variables (McCrae & Costa, 1997). The effect of personality on emergent leadership is one such variable (Judge et al., 2002b; House & Aditya, 1997, Emery et al., 2013). Though well studied, this interaction is not fully understood, because the effect of personality on leadership emergence varies greatly depending upon situational context (Funder, Guillaume, Sakiko, Shizuka, & Tatsuya, 2012).

Research indicates that some combination of an individual's personality and the "active ingredients" of her or his situation will predict who will emerge as a leader. However, there is no clear way in which situations can be analyzed allowing for this prediction to occur due to the complexity of situational difference. For example, according to Judge et al. (2002), leadership emergence varies greatly depending upon the context in which it occurs. Currently, online discussion group contexts have not been adequately studied. This study attempted to bridge the gap by linking Big Five personality traits, as measured by the Big Five Inventory (BFI), with success in generating peer response to original posts in an online discussion group with a topic of violence prevention on the Facebook platform.

The Big Five Inventory is a valid and reliable short-form personality measure (John, Donahue, & Kentle, 1991). Results from this measure were analyzed in relation to individuals' success in generating replies in the Facebook group <u>We Can Prevent Violence</u>. This group was created as an adjunct to classes in the Indiana University of Pennsylvania psychology program with the stated goal of increasing knowledge on issues related to violence. Replies were used as evidence of emergent leadership, since the number of replies an individual receives demonstrates the ability to start and maintain conversations online, which is consistent with the concept of opinion leadership (Weimann, 1994). Information from prior research suggests that individuals high in Extraversion, Conscientiousness, and Openness to Experience should receive more responses to discussion threads they create online than individuals low in these traits (Judge et al., 2002b & Emery et al., 2013). A thread is an online discussion occurring in response to an original post. A meta-analysis by Judge et al., (2002b) also suggests that individuals high in Neuroticism will receive fewer responses than individuals low in this domain. However, it was expected that this effect, observed in offline groups, would not be observed online because of the tendency for neurotic individuals to feel more stable online (Blumer & Doring, 2012).

CHAPTER 2

LITERATURE REVIEW

Leadership

What are the salient features of a leader? Is leadership simply due to technical ability or are there other factors at play? Does the man make the times or do the times make the man? The research of Mischel (1973) suggests that the answer lies somewhere in the middle. To understand this interaction between innate characteristics and situation, three theories should be considered: trait theory, contingency theory, and leadership emergence theory. The ideas that lay the groundwork for trait theory can be seen as early as the 1800s with Thomas Carlyle's work, Heroes and Hero Worship (1841). In this book Carlyle proposed the concept that there are certain traits of great men that predestine them to become leaders. Carlyle contends that it is the man who makes the times and not the other way around. In other words, he believed that some people were born to be leaders, and that a person born with a predefined set of traits would rise to a leadership role in any situation. This theory did not hold up to scientific review, in that individuals were found to behave differently depending upon situational contexts (Mischel, 1973; Stogdill, 1948; Mann, 1959). Though Carlyle's theory was eventually dismissed and catalogued with other incomplete theories of the time, it is viewed as the grandfather of trait theory in leadership, which is currently one of the dominant and most studied theories of leadership (Mischel, 1973).

Though trait theory contends that certain traits make it more likely that one will rise to power, it also takes into account the idea that an individual's traits are not necessarily the sole defining aspect of the emergent leader equation. Though most trait theorists would agree with the preceding statement, there has been a great deal of disagreement over the strength of the

relationship between personality traits and leadership emergence. Research on trait theory has suggested that though traits play a part in leadership (Judge, Piccolo, & Kosalka, 2009), the expression of the traits vary greatly depending on the nature of a situation (Stogdill, 1948; Judge et al, 2002; Mischel, 1973). Stogdill (1948) called for a re-examination of trait theory, citing the variability of behaviors and trait expressions he found in differing situations. Stogdill's (1948) findings, in particular, led to skepticism of trait theory with the conclusion that "the findings suggest that leadership is not a matter of passive status or of the mere possession of a combination of traits." Stogdill asserted that there was more to be gained from viewing leadership as an interaction between traits and situation (Stogdill, 1948). Stogdill's critique, though it was not his intention, led to a near abandonment of trait theory. His critique, among others' (Jenkins, 1947; Mann 1959), led trait theory to be dismissed as overly simplistic as well as, by some, to be damaging to the state of research (Bryman, 1992) because of the risk of the term trait being used to describe any way that individuals differ.

Mischel's (1973) study indicating that personality could be more or less predictive of behavior depending on the power of the situation helped to elucidate how personality functions in varying contexts. Mischel found that personality is more predictive in "weak" situations and less predictive in those that are "strong." Strong situations are those that have strong behavioral expectations. An example of a strong situation is a funeral. Strong social expectations exist regarding not only behavior but also clothing that can be acceptably worn. It would be inappropriate to attend a funeral in the same clothing as one would wear to the gym, and most people do, indeed, observe these expectations. According to Mischel (1973) situational elements in strong situations tend to control behavior more than disposition, whereas in a weak situation without strong behavioral expectations, disposition plays a stronger role.

Unfortunately, there is currently no valid and reliable manner to determine the salient components of a situation which can be used to predict what type of person will rise to a leadership role in a given situation. Thus, the field is at a level of sophistication where each situation must be investigated on its own to determine what may or may not generate the rise of leadership. The specific situation of the current study was unique in that participants may have perceived the strength of the situation in different ways. It is likely that some participants viewed the online discussion group as an extension of their course and assumed that it had the same rules as their in-person class and that their professors would be closely observing interactions within the group. Other participants may have viewed the group's un-moderated nature as a sign that their professors were not involved in the group and that there were no prescribed rules for interaction. Therefore, the strength of this online situation is unknown.

According to Judge, Piccolo, & Kosalka (2009) a major reason that trait theory had been criticized in the past was a lack of ability to measure psychological traits with any sort of validity or accuracy. Judge et al., (2009) argues that during early studies of leadership, lack of accepted measures for assessing internal psychological traits, lack of understanding of the difference between leadership effectiveness and leadership emergence, and poorly defined classification of traits led to the lack of significant findings when studying the relationship between personality and leadership. The Big Five personality inventory was developed in response to these criticisms and provides a set of generally accepted traits as well as a valid and reliable tool by which these traits can be measured (Barrick & Mount, 1991). This conceptualization of personality is not limited to the study of leadership emergence, but also allows for the study of a number of previously held, but unverified, assumptions across psychological literature in general (Barrick & Mount, 1991). Instruments stemming from this conceptualization, such as the NEO five-factor

personality inventory and the Big Five Inventory, allow researchers to utilize a single instrument by which to measure a variety of personality traits. This uniformity in personality measurement has paved the way for the adoption of a meta-analysis approach that has become the gold standard for the examination of a variety of concepts (Barrick & Mount, 1991).

In 2002 Judge, Bono, Ilies, and Gerhardt conducted what is widely considered to be the most comprehensive meta-analysis on leadership to date. The researchers found correlations between personality traits and both leadership emergence and leadership effectiveness. These findings provided significant evidence supporting the validity of the impact of personality traits on leadership. However, from study to study, results of personality traits and their correlations to leadership vary to such a large extent (Stogdill, 1948; Judge et al, 2002) that their influence on one another only becomes clear when viewed through the lens of a meta-analysis. These meta-analyses have shown a clear effect of personality on leadership (Judge, 2002).

A second, highly utilized strategy for studying leadership is a contingency approach (Smith & Peterson, 1988). This is the idea that the effectiveness of various leadership styles is based upon the situation in which it is employed. In other words, a leadership tactic that is useful in one situation may not be useful in others. Having a great deal of face validity, this contingency approach gave rise to situational leadership theory, which has become widely accepted and remains a basis of training in the field of leadership training (Hartog & Koopman, 2002). These training programs teach that leaders must adjust their style to match the 'development level' of the groups which they wish to lead. This theory hinges on the assertion that, depending on the task and the relationship behaviors of the group, certain styles of leadership should be adopted in order to create the desired result. Though this concept is widely taught in leadership circles, there is little empirical evidence supporting it (Yukl, 1998).

According to Hartog & Koopman (2002), the most empirically-supported model of contingency theory is House's path goal theory (House & Mitchell, 1974). This theory posits that "(1) leader behavior is acceptable and satisfying to subordinates to the extent that subordinates see such behavior as either an immediate source of, or instrumental to, future satisfaction; (2) leader behavior is motivational (i.e., increases follower effort) to the extent that such behavior makes followers need satisfaction contingent on effective performance and to the extent that such behaviors complement the environment of the subordinates by providing guidance, support, and rewards necessary for effective performance" (House & Mitchell, 1974). Though this theory has been widely accepted, it still is fraught with issues such as inconsistent findings, lack of attention to informal leaders, and issues with assuming the effectiveness of a group is directly related to leadership (Bryman, 1992). Flaws such as these can be found in almost any of the current theories of leadership. The important component to recognize is that different situations call for different types of leaders (Mischel et al., 2002), which is a concept validated by the differential influence of personality traits on leadership emergence in diverse situations (Judge, 2002).

The focus of the current study was how leaders emerge in an online context. Leadership emergence is the tendency for an individual to be regarded as a leader in a leaderless group (Lord, De Vader, & Alliger, 1986). This differs from other metrics of leadership in that it is solely concerned with the tendency of an individual to be regarded as a leader in the absence of a formal leadership role, and it is not concerned with their success in meeting leadership goals (Johnson & Bechler., 1998). Leadership Emergence Theory (LET) takes a competitive view of the development of a leadership position. This theory suggests that certain behaviors can either make someone more competitive or remove an individual from competition in the quest to

become a leader (Johnson & Bechler, 1998). Though this theory is focused on behaviors, later studies suggest that certain personality traits are correlated with an individual's likelihood to emerge as a leader (Cogliser et al., 2002; Emery et al., 2013; Won, 2006; House & Aditya, 1997). This effect is hypothesized to be due to an individual's behavioral tendencies to act in a manner that others find motivating.

The specific situation that is of concern to the current research project is that of an online leaderless group with the stated purpose of discussing violence-related topics. Online environments are important to study because they are of burgeoning popularity. More people are spending time online and grouping themselves using online means. Considering the variation in results across other situations, from multinational corporations to military leadership roles (Judge et al., 2002b), it is important to look at every type of situation in order to be able to make valid predictions regarding them. This is especially important in online forums, because they demonstrate a situation in which interaction does not take place face-to-face. They are also likely to provide examples of informal versus formal leadership roles, wherein, instead of having clear leaders and subordinates, certain individuals rise to leadership organically at times when their personal attributes make them best suited to lead. The group then picks their own leaders rather than being assigned these leaders or formerly voting these individuals into office for a predetermined period of time. Therefore, due to the pervasive use of the internet as a means of interaction (Brenner & Smith, 2013), it is important to assess the effects of personality as they relate to leadership emergence within this context.

Personality

An individual's personality is a combination of characteristic thoughts, motivations, and general dispositions that intersect to influence the way in which he or she handles stress, forms

social relationships, and generally interacts with the world around (Krauskopf & Saunders, 1994). Though the concept of personality may seem fairly straightforward, psychology's current understanding of personality is rather complex.

To understand personality it is important to understand how it develops. There is some agreement among personality experts that personality is constructed early on through an interaction between temperament and environment (Rothbart, Ahadi, & Evans, 2000). Temperament is considered to be a biological predisposition which influences how a child reacts to their environment (Rothbart et al., 2000; Shiner, Buss, McClowry, Putnam, Saudino, & Zentner, 2012). As an example, an infant born with an inhibited temperament who interacts with a warm and nurturing environment will develop a different personality than a child with the same interaction style interacting with a cold and unloving environment. As a child moves through life to adulthood, the formation of personality continues to be affected by this aforementioned interaction between environment and temperament, forming long-lasting patterns of thinking, interacting, and behaving (Jovev, McKenzie, Whittle, Simmons, Allen, & Chanen, 2013; Rothbart, 2011). Thus, if an uninhibited individual interacts within a neglectful environment, this individual may reach adulthood showing a number of neurotic traits that they would not have otherwise exhibited. On the other hand, if this individual is raised in an accepting and nurturing environment, they will likely be extroverted and open to new experiences. As time goes on these patterns of interaction become less malleable and form what is known as personality (Rothbart et al., 2000).

While there are many different traditions from which to view personality, all of them share some important similarities. They have similar foci in that they prioritize the importance of individual differences between people and how these differences motivate people to behave

(McAdams & Pals, 2007). Personality theorists therefore use observations about individual differences between people in order to propose measurable overarching features of personality; referred to as constructs (Wiggins, 1973). Once these constructs are proposed, research begins to determine their validity. These constructs are then validated by differing types of data, and those constructs that find the most support tend to produce the largest volume of research (McAdams & Pals, 2007). The vast majority of these constructs function at two levels, which are especially important in the realm of online leadership.

The first of these levels focuses on dispositional traits (Hooker & McAdams, 2003; McAdams & Pals, 2007). These traits are broadly defined as differences in thoughts, feelings, and behaviors that exist on a continuum and are stable over time. The second level is characteristic adaptation (Costa, Jr. & McCrae, 1994). This focuses on how individuals with certain dispositional traits adapt to particular situations. These concepts differ in that characteristic adaptations are contextualized within the situations instead of simply where on the continuum an individual falls. They address an individual's motivation with respect to context and social role and how the interaction of trait and situation affects thoughts and behaviors. It is therefore impossible to understand the second level without the first (Mischel & Shoda, 1995).

While similarities between all personality theories exist, historically there have been a number of competing models for how personality is structured and how it functions. These theories can be broadly broken up into trait, type, psychoanalytic, behaviorist, social-cognitive, humanistic, and biological. Each of these traditions gave rise to instruments that have competed for acceptance as the dominant measure of personality structure (McCrae & John, 1992). This disagreement on the nature of personality, however, does not mean that the basic domains of personality stemming from these theories are completely dissimilar. The similarities of these

constructs were first identified by Tupes and Christal in 1961. Their findings suggested that though personality theorists had a number of definitions for the makeup of personality, largely, they were simply using different names to describe similar concepts.

Recognition of what these similarities meant for assessing personality was not fully realized until decades later (McCrae & John, 1992). It gave birth to a theoretical instrument for the assessment of personality, the Five Factor model. This model was structured around similarities between previous models and provided a model that created a common language for all personality researchers (Digman, 1990). Factor analyses were conducted by researchers in order to comprehensively investigate the overlap of these various models with the Big Five constructs (Peabody & Goldberg, 1989; Trapnell & Wiggins, 1990). Data from these studies suggested significant correlations between these models and the Big Five, which supports the validity of the Five Factor Model (Peabody & Goldberg, 1989; Trapnell & Wiggins, 1990). In the 1980s and 1990s, studies of these similarities led proponents of these models to accept that the basic constructs of personality are fundamentally similar (John et al., 1991).

Five Factor Model

The broad personality dimensions that make up the Five Factor model are Extraversion, Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness. Merriam-Webster's dictionary defines Extraversion as the act, state or habit of being predominantly concerned with and obtaining gratification from what is outside the self. These individuals tend to thrive on social attention and to be talkative, active, and energetic (Bono & Judge, 2004). According to Depue and Collins (1999). Extraversion is predominately made up of two characteristics. The first is interpersonal engagement, which means valuing relationships with others and intimacy. The second is agency, which is the drive to be socially dominant and to

attain leadership positions. Individuals who are high in interpersonal engagement and low in agency are likely to value close relationships without feeling a drive to be in charge of them. Individuals high in agency but low in interpersonal engagement are likely to attempt to dominate social situations but may be unconcerned with the emotions of others in the group.

Neurotic individuals tend to view the world negatively. There is a strong association between high Neuroticism and both low self-esteem and low self-efficacy (Judge, Ereze, Bono, & Thoresen, 2002). High Neuroticism is also associated with anxiety, self-doubt, and feelings of uneasiness. This scale, sometimes referred to as emotional instability, or reverse scored as emotional stability, attempts to assess how individuals manage stress (McCrae & John, 1992). According to McCrae & John (1992), while individuals who are low in Neuroticism are not necessarily mentally healthy, they are less susceptible to the effects of stress than their peers.

Openness to Experience is a general appreciation for art and adventure. Individuals high in Openness to Experience tend to value a variety of novel experiences, be more likely to consider unusual ideas, and be more likely to "think outside the box." Individuals who are low in Openness to Experience tend to approach problems from traditional points of view (McCrae & John, 1992). This domain is sometimes called intellect; however the validity of this term is questionable, because a high score in Openness to Experience is only mildly correlated with high levels of intelligence as assessed by prominent measures of intelligence (McCrae & Costa, 1985). This domain, more accurately, is defined by the tendency to think creatively rather than the ability to learn and process information quickly. While one might argue this as being linked to intelligence, it seems likely that it is more closely related to mental flexibility than to the overarching concept of IQ as it is currently understood.

Agreeableness is defined as a tendency for individuals to cooperate with those around them. These individuals are inclined to be helpful and to value collaboration. According to Graziano and Tobin (2002), Agreeableness is the least well understood of the Big Five domains. They define Agreeableness as the motivation to maintain positive relationships. High levels of Agreeableness are predictive of efforts to avoid conflict and to maintain group cooperation.

There are two different conceptualizations of what Conscientiousness represents. Conscientiousness is viewed by some personality theorists as the tendency to set and work towards specific goals. These individuals tend to plan to reach their goals and then to execute these plans successfully (Digman & Takemoto-Chock, 1981). The second theorized component is the ability to inhibit impulsive behaviors that will interfere with the accomplishment of goals (Tellegen, 1982).

Each of these factors has been studied and found to be adequately stable in self-report data across the lifespan of individuals. However, they have not led to high predictability of behavior across situations (Bem & Allen, 1974). This variability in behavior across situations has become known as the "personality paradox" (Mischel & Shoda, 1995). This has caused a debate about which factor is more important, situation or personality. The debate, at this point, is largely a straw man. Though the notion of a debate between these concepts makes for interesting discussion, experts in the field of personality now recognize that these components are interactional rather than dichotomous (Funder, 2006).

Funder conducted a study which elegantly illuminates this interaction. In this study two opposite-sex individuals were brought into a room and asked to have a conversation. The initial conversation was evaluated using an early version of the Riverside Behavioral Q-sort (Funder, Furr, & Colvin, 2000). This version of the Q-sort, which is made up of 62 items meant to capture

general characteristics of socialization, was rated by four research assistants, whose responses were then averaged. This protocol was then repeated, matching the same individuals with different opposite-sex conversation partners for the second Q-sort. These situations were identical in all ways other than each individual having a new conversation partner and having experienced this situation once before. The results were that in the second situation, across individuals, significantly less awkwardness and timidity were shown and greater social skills were exhibited. It was, however, also observed that across individuals, there were significant correlations in the manner in which individuals acted in both situations at the p<.001 level for 37 out of the 62 behaviors assessed by the Q-sort.

This suggests that while even a slight change in a situation can have a significant effect on behavior, individuals will still maintain their personality characteristics across situations. In other words, though individuals will behave differently in differing situations, they also exhibit consistency in behavior to at least some degree. This study highlights the importance of examining the effects of personality in a variety of situations. Situations that have been studied in the past include the biblical story of the good Samaritan (Darley & Batson, 1973) and situations related to obedience (Milgram, 1963), along with many other situations. Online discussion groups, such as the <u>We Can Prevent Violence</u> Facebook group, are a new type of situation which has been little studied, creating a gap in the literature that begs investigation.

Leadership Emergence and Personality

The interaction between leadership emergence and personality has been studied in a vast number of different situations (Judge et al., 2002b), and results tend to differ across these (Mischel, 1973). Though results differ, a meta-analysis conducted by Judge et al. (2002b) was able to shed some light on trends that emerge when data from these situations were viewed as a

whole. Findings in this study showed that Extraversion, Neuroticism, and Openness to Experience were all correlated with leadership criteria when data from 73 studies were examined in a meta-analysis.

Findings overall showed that the Five Factor model had a significant correlation with leadership (r= .48). Extraversion was positively correlated with leadership (r = .31) and had the strongest and most consistent effect across studies (Judge et al, 2002; Judge et al, 2004). In order of magnitude, the next strongest relationship was between Openness to Experience and leadership (r = .24). Neuroticism was negatively correlated with leadership (r = - .24). When studies using leadership emergence as the independent variable were analyzed, the relationship between personality and emergence was slightly higher (r=.53) with Extraversion and Conscientiousness having the highest correlation to leadership emergence (r = .33), followed by Openness to Experience (r = .24). Neuroticism was negatively correlated with leadership emergence (r = -.24). The final scale, Agreeableness, did not show a significant correlation with leadership emergence (r = .05). One interesting finding of this study is that Conscientiousness had the lowest significant correlation with the independent variable leadership effectiveness (r = .16), even though it has a much higher correlation (r = .33) with leadership emergence. This might mean that Conscientiousness is more pertinent to emergent leadership than it is to effective leadership. However, the issue has not been investigated to date.

Judge and colleagues (2002) also studied the correlation between measures of leadership and personality in business, government/military, and student groups. Correlations between personality and leadership were overall higher in student groups than in either of the other two groups studied. The scale with the strongest positive correlation with leadership was Extraversion (r = .40). This was followed by Conscientiousness (r = .36) and Openness to

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Experience (r = .28). Agreeableness continued to show no correlation to leadership. Neuroticism also continued to be the only scale with a significant negative correlation to leadership (r = -.27).Therefore, the strength of the correlation for qualities that increase the tendency of an individual to emerge as a leader vary greatly.

Though there is not a great deal of scholarship on this area of study in online contexts, there has been research conducted on situations that share some situational elements with online groups. A context in which leadership emergence, traditionally, has been researched is leaderless group discussions (Ensari, Riggio, Christian, & Carslaw, 2011), which share major elements with online group discussions such as the <u>We Can Prevent Violence</u> Facebook group. The first obvious shared element is that these leaderless groups are, in fact, leaderless. Therefore, these groups are free to select their own leaders by whatever criteria they choose. The second is that these groups are made up of largely unacquainted individuals, which is similar to how most online discussion groups operate. Ensari et al. (2011) conducted a meta-analysis investigating the effects of personality on leadership emergence across 45 studies of leaderless group discussions. This study found that in leaderless groups, leadership emergence was positively correlated with Extraversion and Openness to Experience. It was negatively correlated with Neuroticism. Conscientiousness and Agreeableness were not found to be predictive of leadership emergence in this context (Ensari et al., 2011). Though some situational elements are unchanged in both face-to-face and online leaderless discussion groups, there are many contextual factors that differ.

Internet as a Context for Social Engagement

In the United States, individuals are connecting in ways that would not have been possible only a decade ago. According to the Pew Research Center, 73 percent of American adults use some form of social networking (Duggan & Smith, 2013). People discuss everything

from the vital to the mundane online. In this manner the internet has become an important part of the daily life of the average American.

In the Middle East, beginning on December 18, 2010, the internet revealed its true power as a tool for global change. The Arab Spring, a series of both violent and non-violent protests across the Middle East, changed the way that many perceive the internet. The youth in many of these countries took to the internet to share opinions regarding what they viewed as authoritarian and autocratic regimes. Individuals in many Arab countries were able to use this new medium to rally support, organize protests, and even, in the case of Tunisia, Egypt, Lebanon, and Yemen, to overthrow entire regimes (Howard et al., 2011). While the media has recognized the effect of digital communication on the uprisings, very little is known about the personality characteristics of the individuals who generated the momentum that would eventually lead to these populous revolutions.

According to philosopher Thomas Carlyle, "the history of the world is but the biography of great men" (Carlyle, 1841). In this way he put forward his belief that the internal traits of great men are responsible for all major historical changes. Carlyle's work, though important for his time, did not recognize the importance of the interaction between people and their environment. Even if he did recognize this, he could not have predicted the evolution of modern day social media. Interacting within the environment of social media, leaders of online discussions used the power of almost instantaneous communication to ignite the Arab Spring. It may be that these individuals shared many of the same characteristics as Carlyle's leaders. On the other hand, it may be that individuals who would not have emerged as leaders in another situation were able to use this new social environment to evolve into leaders. We now know that individuals adapt their

actions across differing situations (Mischel & Shoda, 1995) depending on what behaviors are

most adaptive, and that differing situations reward different personality traits.

What is so fascinating about the internet is that it fundamentally changes the nature of

everyday interactions. In so doing, the demand characteristics for success in any given situation

can deviate from those of real life situations. Circumstances that would commonly cause anxiety,

such as making an argument to a large group of individuals, become less disquieting. There are

several potential reasons for this. First, a person who would ordinarily doubt themselves in a

verbal debate has the time to formulate their ideas, vet these ideas, and post them in their own

time (Blumer & Renneberg, 2010; Ehrenberg, Juckes, White, &Walsh, 2008). In this manner the

internet provides an opportunity for people who normally would remain silent to find their voice.

Secondly, these individuals maintain at least visual anonymity. Though others may know who

they are, at the moment of posting they are not being directly observed. This is applicable to the

online discussion group that this study was conducted in because individuals who might be

reluctant to participate in in-person classes discussions might be more likely to post to a

discussion group on the internet.In the early days of the internet, anonymous discussions

between strangers were very common (Amichai-Hamburger, Wainapel, Galit, & Fox, 2002). The

internet was seen as a tool that could be used to anonymously discuss topics and concepts with

individuals from different places with vastly different points of view (McKenna & Bargh, 2000).

Though this does still happen, the rate of occurrence has dramatically fallen off in favor of social

networking between people that users have met in real life (Blumer & Doring, 2012). A social

networking site allows users to create an online profile. With this profile they can connect with

friends or friends-of-friends in order to facilitate communication (Raacke & Bonds-Raacke,

2008). An example of the current usage imbalance between social networking and anonymous

discussion forums is the amount of users of Facebook, the world's largest social networking site, and Reddit, the world's largest anonymous online discussion community. It is common for Facebook users to use their real names, post pictures of themselves, and even share their current location. In contrast, on Reddit, this kind of activity is uncommon and is actually against the unenforced rules of the community. Therefore, users generally operate totally anonymously. According to Alexa (2014), a website ranking mechanism which measures web traffic across different sites, Facebook ranked as the second most visited site in the world, while Reddit ranked sixty-fourth as of April 2, 2014.

Joinson (1999) conducted a study in which level and type of anonymity were assessed using either an online or paper-and-pencil survey. In this study subjects were broken up into the following four groups: anonymous in-person pen-and-paper measure, non-anonymous in-person paper-and-pencil measure, online anonymous measure, and online non-anonymous measure. Evidence suggests that individuals report lower social anxiety and a lower need to act in socially desirable ways when they complete measures in a situation of visual anonymity (such as online), than when they complete the same measures with paper-and-pencil. The effect is intensified when these same measures were completed using the internet with total anonymity (Joinson, 1999). In addition, this study found that individuals feel overall happier and more secure when they are completely anonymous when completing personality measures. If this is the case, then why has there been a rise in identified communication and an overall decline in anonymous communication online? To gain an understanding of the shift in computer-mediated communication, it is important to discuss the positives and negatives of de-individuation.

According to classical de-individuation theory (Zimbardo, 1969) behaviors that would ordinarily be inhibited are not, due to decreased feelings of personal accountability. Therefore,

this de-individuation, at least in the case of a student engaging in an online discussion, should have the positive effect of increasing social engagement of introverted people by decreasing inhibition. Inhibition, however, can be good or bad depending on what it is inhibiting. The dark side of lack of inhibition can be seen nowhere more clearly than in completely anonymous internet interaction and its penchant for incivilities such as trolling (Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2014; Galbraith & Jones, 2010).

The definition of a troll is a "user who constructs the identity of sincerely wishing to be part of the group in question, including professing, or conveying pseudo-sincere intentions, but whose real intention(s) is/are to cause disruption and/or to trigger or exacerbate conflict for the purposes of their own amusement (Hardaker, 2010)." These individuals require anonymity in order to construct false identities that are then used to harm, or at least to mildly disrupt, the group for their own amusement. This often creates an environment on completely anonymous sites that is unpleasant for earnest users.

The social identity model of de-individuation effects (Reicher, Spears, & Postmes, 1995) suggests that anonymity decreases knowledge of individual and interpersonal differences, which can increase conformity and lead to higher levels of identification with group goals. Postmes, Spears, Sakhel, & De Groot (2001) found that anonymous online groups were far more susceptible to primed group norms than those in non-identified groups. Further, unprimed individuals who later entered the group conformed to these norms. These findings were not found when individuals were identifiable. The group norms may be positive, such as helping others in the group, or negative, such as encouraging the use of racial slurs.

Beyond the effects of the potential offensiveness of totally anonymous online communication, there are also positive attributes of social networks that anonymous forums do

not offer. Social networks offer an environment that, rather than being an alternative to real life relationships, is an extension of the user's personal life. Over 90% percent of users use these sites to keep in touch with individuals that they already know in real life (Lenhart, Madden, Smith, & MacGill, 2009). In this way, real life and online communication have become enmeshed in such a way that the boundaries between real life and online communication have become blurred. This issue will only become more salient as smartphones, which can currently be used to communicate instantly and easily on most online platforms, as well as augmented reality products such as Google Glass, become more prolific. Computer-mediated communication is a tool that, for some, now supplements life rather than existing as an alternative to it.

The popularity of social networking sites has led to their incorporation within educational environments (Miller, 2013). It was found that discussions conducted on Facebook, rather than using education-specific discussion online forums, not only increased the speed in which individuals responded but also increased the occurrence of response overall. This demonstrates a preference for using those sites with which users are familiar. Indeed, this is the very effect professors sought to harness when assigning the We Can Prevent Violence group as an extra credit opportunity. By continuing class discussion utilizing an electronic medium that members are already familiar with, educators provided an additional platform for extending class discussions. While this revolution has occurred in day-to-day life, psychologicalunderstanding of this new medium has unfortunately lagged behind. For example, while there is recognition by the APA of the need for guidelines regarding computer-mediated communication (telehealth), these guidelines are currently almost nonexistent (APA, 2014).

Internet Use and Personality

In the study of internet use and personality, three of the five factors of personality have been found to be related to overall internet use. These are Neuroticism, Extraversion, and Openness to Experience (Correa et al., 2010; Ross et al., 2009; Zywica & Danowski, 2008). It is important to note that as the way people interact with the internet has changed, personality characteristics of those who use the internet have also changed. For example, studies conducted a decade ago suggested that those high in Extraversion and low in Neuroticism tended to use the internet very little (Amichai-Hamburger et al., 2002). This was at the time thought to be because the internet provided an environment that was more comfortable for individuals that are high in neuroticism due its anonymous nature. This finding stands in direct opposition to more recent evidence indicating that Extraversion was the highest predictor of social media use among the Big Five personality dimensions (Correa et al., 2010). This does not indicate that the methodology of either of these studies were flawed, but rather that the characteristics of the internet itself have changed.

The use of social networks has become almost ubiquitous, with most adults engaging in some form of online social networking (Duggan & Smith, 2013). These social networking sites offer very little anonymity, because the goal of users is to connect with individuals that they know in real life (Lampe, Ellison, & Steinfield, 2006; Valenzuela, Park, & Kee, 2009). This has caused the internet to progress from a place in which individuals could get away from those they engage with in day-to-day life to a tool used to increase contact with those very people.

Thus, as the internet has changed, so have the personality traits of those who use it. There is evidence suggesting that individuals who score high in Neuroticism as well as those scoring high in Extraversion both use the internet more than their peers (Correa et al., 2010). It appears

that the Extraversion-social network connection is at least somewhat mediated by emotional stability, in that extroverts who were more emotionally unstable used social media less than their more stable peers (Ellison, 2007). Further explicating this connection between stability and internet use, Blumer & Doring (2012) conducted a study which investigated the expression of Big Five traits in online and pen-and-paper personality measures. These researchers used two versions of the NEO-FFI, the first being the original version and the second being a modified version in which all the items referred to computer-mediated communication rather than interactions occurring in real life. On four of the Big Five factors, there were minimal differences between the two versions. However, individuals scoring very high in Neuroticism consistently described themselves as more stable in an online environment. This increased feeling of stability may lead to these individuals using the internet in a different manner than those low in emotional stability.

Research suggests that those high in Neuroticism are more likely to make greater use of instant messaging services (Ehrenberg et al., 2008). These messaging services allow individuals to move communication, which in real life would cause great discomfort, to a medium in which they feel more stable and which allows them ample time to vet their responses to ensure that they are socially appropriate. Individuals with low self-esteem use Facebook to a greater degree than those with moderate and high self-esteem (Ellison, 2007). The concept of conflicted shyness, a situation in which someone wants to socialize but is fearful of initiating social interaction due to a perceived lack of social competence (Asendorpf, 1990) also has bearing here. This suggests that though these individuals may struggle with face-to-face contact, they feel more comfortable communicating through an online medium. Authors of this study suggested that this is likely due to an ability of the online medium to aid individuals in raising life satisfaction and self-esteem.

Those high in Neuroticism tend to use Facebook as a tool that reduces their anxiety about interacting with people (Ellison, 2007; Ehrenberg et al., 2008; Blumer & Doring, 2012), while extraverted individuals tend to use Facebook to complement their real world lives (Gosling, Augustine, Vazire, Holtzmann, & Gaddis, 2011; Zywica & Danowski, 2008). Extroverts use the internet to accomplish a goal that was already intrinsic to their personality - to interact with others. Facebook allows neurotic individuals to, perhaps for the first time in their lives, join the conversation at a level playing field as those low in Neuroticism by reducing perceived emotional instability and anxiety and allowing them time to generate socially competent posts. What is interesting is that, though motivations are different, these individuals tend to present in very much the same way on social network groups. Both high levels of Extraversion and Neuroticism have been demonstrated to lead to a higher likelihood of using the internet for political purposes (Correa et al., 2010). Therefore, it is more likely for an extroverted individual and a neurotic individual to make attempts at online political leadership than other individuals.

Heavy users of the internet, overall, have been assessed as having higher levels of Openness to Experience than peers who are less likely to use the internet (Ross et al., 2008). This is to be expected due to the fact that high levels of Openness to Experience have been shown to be positively correlated with individuals seeking out new experiences and new forms of communication (Phillips, Butt, & Blaszcynski, 2006, Ross et al., 2009; John & Srivastava, 1999).

The literature shows a significant interaction between personality and overall internet use, both with personality affecting internet use as well as the internet affecting the manner in which an individual experiences their personality. Combined with the literature concerning situational effects on personality, this suggests that the manner in which people behave should vary between

online and real life situations. This raises the question of who will emerge as a leader naturally in an online discussion group.

Emergent Leadership and the Internet

The concept of emergent leadership has been conceptualized in a number of different ways in offline communication. However, in online communities, it is even less well understood. The literature on social influence contends that leaders are defined by their ability to accumulate followers as well as the ability to influence the thoughts, ideas and actions of those followers (Hollander, 1961). This definition of emergent leadership is related to Schneier and Goktepe's (1983) definition of an emergent leader. These authors define an emergent leader as a group member that exerts significant influence over other members without any formal leadership position. This type of leadership is akin to the concept of opinion leadership in studies of communication (Katz & Lazersfeld, 1955). An opinion leader is an individual with the ability to take information from other sources and, through the use of discussion, disseminate this information in a manner that influences other group member's opinions and views (Weimann, 1994). Based on the research in social influence, Huffaker (2010) defines an emergent leader in an online discussion group as an individual with the ability and tendency to spark conversations within online discussion communities.

Research investigating personality traits related to emergent leadership is extremely sparse. The majority of studies have, up to this point, focused predominantly on descriptive statistics that can be derived from online profiles. They have looked at variables such as how long someone has been a member of a discussion community, the tactics used to start discussions, and how these tactics are related to an individual's success in garnering responses and stimulating lengthy discussions (Huffaker, 2010; Cassell et al., 2006; Waters, 2012). One

study that did examine the results of a personality inventory with emergent leadership in online contexts was conducted by Balthazard, Waldman, &Warren (2009). This study involved two leaderless discussion groups, one which occurred in the traditional face-to-face context and one occurring online.

There were different results for the face-to-face group versus the online group. In the face-to-face group, emergent leadership was found to be positively correlated with Extraversion and negatively correlated with Neuroticism; just as in other studies of emergent leadership. In the online context, however, personality traits were not found to be related to leadership emergence. While there are many potential reasons for this divergence of findings, it is possible that the lack of significant findings may be due to flawed methodology rather than the absence of a significant effect of personality on emergent leadership online. Bathalazard and colleagues used a traditional measure of emergent leadership, asking individuals in the group who they viewed as a leader within the leaderless group. This type of measure may be confounded by the fact that, online, an individual replies to a post on a screen rather than directly to a person. Therefore, though it is likely that an individual will recall the person that lead a certain discussion in a face-to-face group, this is less likely to occur online.

A more appropriate methodology might be to assess emergent leadership by determining the number of responses individuals receive to original posts, also known as thread length. This demonstrates the ability of an individual to generate discussion on a topic of their choosing, suggesting that other group members found this user's sentiments worthy of discussion. It also displays influence over the actions of other members of the group, in that they are able to generate discussion with other group members. This measure of emergent leadership, therefore,

satisfies the definitions of emergent leadership provided by both Huffaker (2010) and Hollander (1961).

The current state of the research in assessing online environments has shown the following: interaction online differs from interaction in offline communities in that communications can sometimes be anonymous (Joinson, 1999), people are able to communicate with individuals they have never met with low levels of discomfort (Amichai-Hamburger et al., 2002; McKenna & Bargh, 2000), leaders tend to use different styles of communication online versus in real life situations (Cassell et al., 2006), and members of anonymous groups are more susceptible to group norms (Postmes et al., 2001). This level of knowledge cannot currently answer the question of how personality affects one's ability to emerge as a leader in online contexts. This is because, generally, the studies conducted previously have not been able to collect valid and reliable assessments of personality or to compare these results to a valid measure of online emergent leadership. It appears that researchers up to this point have either lacked the ability to collect good personality data, as is the case in the majority of the literature (Joinson, 1999, Amichai-Hamburger et al., 2002; McKenna & Bargh, 2000), or have been unable to use a measure of emergent leadership appropriate in online environments, as is the case with Balthazard and colleagues. The current project seeks to bridge this gap in the literature by using a reliable and valid measure of personality along with an appropriate measure of online emergent leadership.

Relationship Between Adverse Childhood Experiences and Helping Behaviors

The specific topic of this study's online discussion forum, violence prevention, lead to further consideration of how the group's unique context could impact emergent leadership. Carl Jung initially proposed the concept of the wounded healer (Jung, 1944). This is the theory that a

large number of individuals who seek to help others have themselves suffered psychological

wounds. This concept, though initially described more than half a century ago, has recently been

verified by a study conducted by Alison Barr (2006). In Barr's study the concept of a wounded

healer is described as "relating to counselors and psychotherapists ("healers") who have been

"psychologically wounded" in some way, where, to some extent, the wounds lead to their career

choice." Barr found that 73.9% of therapists and counselors in the study had one or more adverse

childhood experiences which led them to select a career in psychology. Additionally, Barr found

that roughly 50% of individuals who had experienced an adverse event stated that they were

unlikely to have chosen their career in the absence of the adverse event (33%), that these

experiences were the deciding factor in choosing their career (5%),or that they would not have

considered the career otherwise (10.1%).

Though a literature review on the correlation between online advocacy and the

experience of traumatic experiences did not yield any good, empirically validated studies

regarding the effect of traumatic experiences in a person's tendency to advocate for violence

prevention, Barr's study suggests that individuals with personal experiences of traumatic

experiences, especially those involving violence, are more motivated to work to help individuals

who have suffered from such experiences. It is therefore more likely that these individuals will

engage in therapeutic endeavors and also more likely that they will engage in activism

concerning violence prevention.

Current Study

The current study examined the relationship between personality, as measured by the Big

Five Personality Inventory, and emergent leadership, as measured by the average number of

responses to threads initiated on the Facebook group We Can Prevent Violence. In this situation,

an emergent leader was someone who, after making an original post, generated a long thread of additional comments by others. The independent variables that were explored included the levels of Openness to Experience, Extraversion, Neuroticism, Conscientiousness, and Agreeableness scale scores as measured by the Big Five personality inventory as well as Adverse Childhood Experiences measured by the ACE scale. The dependent variable, which was used to assess emergent leadership, was the overall amount or responses received to original posts. There were six hypotheses.

Hypothesis 1: High levels of Openness to Experience of group participants would be positively correlated to the number of responses they received to their original posts.

Hypothesis 2: High levels of Extraversion of group participants would be positively correlated with the number of responses they received in response to their original posts.

Hypothesis 3: High levels of Neuroticism of group participants would not be correlated with the number of responses they received in response to their original posts.

Hypothesis 4: High levels of Conscientiousness of group participants would be positively correlated with the number of responses they received in response to their original posts.

Hypothesis 5: High levels of Agreeableness of group participants would not be correlated with the number of responses they received in response to their original posts.

Hypothesis 6: High numbers of adverse childhood experiences would be correlated with the number of responses they received in response to their original posts.

CHAPTER 3

METHODS

Participants and Procedure

Participants were recruited from an undergraduate population taking Introductory Psychology, Poly-Victimization Across the Lifespan, Psychology of Women, and Human Sexuality, which are psychology classes at Indiana University of Pennsylvania. Students were asked to participate in a We Can Prevent Violence (WCPV) Facebook group and were recruited in class in exchange for extra course credit. A total of 149 participants signed up for the Facebook group. The final dataset, which consisted of individuals who started one or more threads within the posts codedand those who completed all measures associated with the study, was n = 49. This group of participants was primarily female (87.8%) and had an average age of 21.65 (SD = 2.57). Most participants were in the Psychology of Women class (42.9%), although individuals in Human Sexuality (22.4%), Honors Seminar (14.3%), or a combination of more than one class (20.3%) were represented.

Students participated in the WCPV Facebook group from September through the first week of December of 2014. The group was administrated as an educational addition to the previously mentioned psychology courses. For instructors, the goal of student participation in the Facebook group was to extend and deepen class discussions by continuing them online. Students were asked to participate roughly halfway through the semester, to give informed consent, to provide their Facebook names, and to complete a brief survey of personality. They were given 30 extra credit points in exchange for this. At the end of the semester, participant responses in the WCPV group were coded and linked to the survey data, and then all identifying information was removed.

One hundred eighty-nine threads were coded in total, with an equal amount being selected, at random intervals, from the beginning, middle, and end of the semester. Threads started by an original poster that were coded as purposely incendiary were removed from the analysis. For example, if an individual made a post stating "assaulting women is an easy and fun way to relieve stress," it was removed. The logic behind this was that, though such posts would receive a large number of responses, it was unlikely that this conversation resulted in discourse helping members of the group increase understanding and awareness about issues surrounding violence, which was the stated purpose of the group. It was also unlikely that this post influenced the opinions of other members of the group. Any threads begun by an administrator of the group were also removed from analysis due to possible confounds of a known power differential between group members.

Measures

Personality

Subjects were asked to complete the Big Five Inventory or BFI (John et al., 1991). This measure of personality consists of 44 items utilizing a 5 point Likert scale. This scale included 8 items assessing Extraversion, 9 assessing Agreeableness, 9 assessing Conscientiousness, 8 assessing Neuroticism, and 10 assessing Openness to Experience (Appendix A). In order to avoid participant fatigue and to increase the percentage of participant responses, a short measure of personality was administered during class time. The co-efficient alpha reliability for Extraversion was .86, for Agreeableness was .79, for Conscientiousness was .82, for Neuroticism was .87, and for Openness to Experience was .83 in a study with 829 participants (John & Soto, 2007).

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According to John and Soto (2007), the convergent validity between the BFI and other short personality assessments, the NEO Five- Factor Inventory (NEO-FFI) and the Trait Descriptive Adjectives (TDA) were substantial. The overall mean corrected convergence was r=.95 for the BFI and the TDA. The overall mean corrected convergence for the BFI and the NEO-FFI was also r= .95. This suggests high convergent validities between this scale and other commonly used short personality measures. The BFI has two major advantages over the NEO-FFI and the TDA. The NEO-FFI is owned by a private company and the use of this instrument in the study would not only have been cost prohibitive, but this measure was longer and was not significantly better in terms of validity or reliability when compared to the BFI. The TDA, while in the public domain, only makes use of single adjectives, which provided less context than the BFI (Pervin & John, 1999). Thus, because the personality measure was administered to a large group of people at one time, making clarification of individual items difficult, the BFI was determined to be the superior measure.

Adverse Experiences

The Adverse Childhood Experiences (ACE) questionnaire is a 10 item questionnaire which asks about various traumatic experiences within the first 18 years of a person's life. This scale was developed for a study of the link between childhood abuse, household dysfunction, and later illness (Anda & Felitti, 2011). It is a widely used brief self-report measure of childhood and adolescent abuse and traumatic experiences.

Demographics Questionnaire

Students were also asked to fill out demographic information including their Facebook name, age, ethnicity, course enrollment, and gender. This information was used to describe the sample, as well as to control for the impact of age and gender.

Coding of Responses on the <u>We Can Prevent Violence</u> Facebook Group

Each thread was coded for 4 variables. These variables were: the number of comments in a thread, whether the original post was incendiary, whether the post was started by an administrator to the group, and whether a thread by the original poster was previously coded. Additionally, original posts were coded for 11 other variables to be able to describe features of the site. These include whether the thread contained (1) videos, (2) news articles, (3) discussion questions, (4) scenarios, (5) photographs/advertisements/pictures, (6) stories, (7) reminders, (8) opinions, (9) facts, (10) and irrelevant posts (11).

A modified version of the WCPV coding manual was used in order to code the variables of the study (Appendix B). Two coders were trained to reliably code Facebook posts using the original coding system. After coding for approximately four weeks, coders were tested for inter-rater reliability for 50 coded posts. Coders achieved an inter-rater reliability co-efficient ranging from .6-1, or good to excellent, for all codes.

The manual was modified to improve overall coding reliability, and new coders were trained using this modified manual. Following training, each coder coded the same 50 posts independently. These posts were then analyzed for overall reliability. When it was shown that adequate reliability had been achieved, coding began on the rest of the site, ultimately coding 189 threads.

Safeguards

The first page of the BFI survey included informed consent. It explained the handling of data and the fact that participants could discontinue at any time without fear of penalties. Students were asked to read and sign this form before completing the BFI. The purpose of the study was made clear in this form (see Appendix C).

Privacy was of concern when sensitive data (such as that pertaining to an individual's personality is collected. Therefore, all surveys were kept confidential. Following the completion of coding, information was de-identified by assigning ID numbers to participants that correspond to information collected using the BFI. All information containing identifying information was destroyed at this time. This occurred concurrently with the de-identification of coded Facebook data.

CHAPTER 4

RESULTS

Descriptive Statistics

Descriptive statistics for the independent variables including means, standard deviations and correlations for all study variables have been provided in Table D1. All of the independent variables were measured on a five point Likert scale in which 1 represented "disagree strongly" and five represented "agree strongly"; 2.5 was the mean score on each scale. In examining the means of the personality variables, all scores tended to be higher than scale means. Scores on Extraversion were 2.8 ($SD = .725$), on Openness to Experience were 3.6 ($SD = .61$), on Neuroticism were 3.06 ($SD = .88$), on Conscientiousness were 3.85 ($SD = .52$), and on Agreeableness were 2.86 ($SD = .50$). In terms of the ACE scale, participants reported an average of 2.14 critical experiences ($SD = 2.389$), with numbers ranging from 0 to 9. The median number of critical experiences was 1 and the mode was 0. 28.6 percent of individuals responding reported 0 Adverse Childhood Experiences, 26.5 percent reported 1, 12.2 percent reported 2 and 14.3 percent reported 3. 18.2 percent of students reported more than 3 Adverse Childhood Experiences. For a full description of this distribution refer to Table D2.

In regards to the content of the original threads (189), an overview was provided in Table D3. The four most popular types of content were news (27.9%), video (22%), website (15%), and scenario (3.1%). Regarding the actions/suggestions that respondents provided, provocation (6.7%) and agreement (5.6%) tended to be the most popular (Table D4). In regard to the content of all posts (Table D5), the most popular topics were adult abuse (46.3%), gender (21%), and general violence (19%).

The control variables, age and gender, were positively related to one another ($r = .64$, $p < .01$). Gender was also related negatively to Agreeableness ($r = .64$, $p < .05$), indicating that women tended to score higher on this scale. Several of the Big Five traits were related to one another. For instance, Neuroticism was related negatively with Openness to Experience ($r = -.34$, $p < .05$), and Extraversion was related negatively with Neuroticism ($r = -.54$, $p < .05$). The ACE showed no significant correlation with any aspects of the Big Five. Additionally, neither personality characteristics nor ACE score was significantly correlated with the variable "average of responses". R-values for all correlations were listed in Table D6.

Hierarchical Multiple Regression

It was expected that both age and gender would have influences on how individuals interacted with internet-based groups, and as these influences were not the focus of the current study they have been controlled for in all analysis. Research suggested that males and females differed in their participation in online chat forums with men participating in such forums at much greater rates than females (Li & Kirkup, 2007). Age has also been found to be predictive of internet use. Though older adults are now utilizing online environments to a much greater rate than at any previous time in history, they continue to engage with them at much lower rates than younger individuals (Zickuhr & Madden, 2012). Additionally, these variables served as controls because they have been found to be related to leadership emergence (Eagly & Karau, 1991).

The purpose of this analysis was to determine the relationship between Big Five personality dimensions and the number of responses an individual received in response to online postings. Therefore, a two-step hierarchical multiple regression analysis was conducted with the number of responses as the dependent variable (DV). In the first step, control variables (age, gender) were added. In the second step, either Extraversion, Openness to Experience,

Neuroticism, Agreeableness, Conscientiousness, or Adverse Childhood Experiences were added as independent variables. Support for a hypothesis would have been provided if the regression yielded a significant beta weight for the personality variable in predicting emergent leadership, which was, in this study, operationalized as the number of responses to a post. Finally, in order to examine the potential effects of enrollment in introductory psychology course enrollment on leadership, this was also investigated as an independent variable. It was found to have an insignificant effect, and therefore this effect was not controlled for.

Hypothesis Testing

Regression analyses were conducted on each of the five characteristics of the Big Five Personality Inventory with age and gender as the control variables. Examination of the data revealed that there were many original posts that no one in the group replied too. A logarithmic transformation of the data was employed in order to normalize the distribution (Benoit, 2011).

Hypothesis 1, high levels of Openness to Experience of group participants would be positively correlated to the number of responses they received to their original posts, was not supported. Openness to Experience was not significantly related to responses ($b = -.20$, $t(45) = -1.319$, $p > .05$).

Hypotheses 2, high levels of Extraversion of group participants would be positively correlated to the number of responses they receive to their original posts, was not supported. Extraversion was not related to responses ($b = -.171$, $t(45) = -1.176$, $p > .05$).

Hypothesis 3, high levels of Neuroticism of group participants would be unrelated with the number of responses they receive in response to their original posts, was supported. Neuroticism was not related to responses ($b = .173$, $t(45) = 1.170$, $p > .05$), consistent with the hypothesis.

Hypothesis 4, high levels of Conscientiousness of group participants would be positively correlated with the number of responses they receive in response to their original posts, was not supported. Conscientiousness was not related to responses ($b = .054$, $t(45) = .354$, $p > .05$).

Hypotheses 5, high levels of Agreeableness of group participants would not be correlated with the number of responses they received in response to their original posts, was supported. Agreeableness was not related to responses ($b = -.157$, $t(45) = -.993$, $p > .05$).

Lastly, Hypothesis 6, scores on the ACE would be positively correlated with the number of responses they received in response to their original posts, was not supported. Scores on the ACE were unrelated to number of responses ($b = .170$, $t(45) = .852$, $p > .05$).

CHAPTER 5

DISCUSSION

The purpose of this project was to determine how leadership emerges within online

discussion groups as a function of the Big Five Personality characteristics and adverse childhood

experiences. The results did not show any significant relationship between either personality or

number of ACEs and leader emergence. This may be a reflection of a true relationship—the Five

Factor personality traits simply might not predict leader emergence in an online setting; which is

consistent with two of the hypotheses (that Neuroticism and Agreeableness will not be related to

emergence). However, a literature review did suggest that Extroversion, Conscientiousness, and

Openness to Experience (Judge et al., 2002b, Judge et al, 2002a), should be positively related to

leadership emergence in an online environment due to the situation's demand characteristic.

Therefore, limitations of the current study must be seriously considered as causal in this lack of

significance. Further research using on-line environments to develop an understanding of how

leaders emerge in these environments is needed.

The current study utilized the Five Factor model of personality and posited, , that high

levels of certain traits would relate to higher levels of leadership emergence as measured by the

average number of responses elicited from other group members to original posts within the

group. First, high levels of Openness to Experience was expected to be related to emergence.

This hypothesis was consistent with the relatively frequent finding that Openness to Experience

relates to leadership and leadership emergence (Judge et al., 2002b, Ensari et al., 2011). This

relationship might be driven by the consistent finding that Openness to Experience and

intelligence (McCrae & Costa, 1985; Ensari et al., 2011; Gignac, Stough, & Loukomitis, 2004)

were moderately related. Conceptually, the idea that more intelligent individuals would be more

open to experience, and thus emerge as leaders in face-to-face situations, made logical sense. While research (Judge et al., 2002b) has found a weak correlation (r = .23) in face-to-face situations, which does partially support this conclusion, this does not mean that it has to also be true in the very different social environment of an online discussion group. In fact, based on the findings of the current study, this relationship might not hold up in an online setting. Openness to Experience might not be as important of a driving force for emergence in an environment where quick thinking is not as important, and thus respondents can reflect in advance before deciding to participate. Online respondents have a longer time to consider their responses, check their work, and ensure that their arguments are sound. As such, it is possible that Openness to Experience might be unrelated to leader emergence in this particular environment.

Extraversion has also showed a consistent relationship with leadership emergence across a number of studies (Judge et al., 2002b; Ensari et al., 2011). However, despite a hypothesized positive correlation, no relationship was found in the current study. The relationship in prior studies has been considered to be largely driven by the fact that "air time," or the amount that a person speaks, tended to relate to the emergence of leaders (Judge et al., 2002b). Extraverted people enjoy being around others, and they have been found to be generally talkative. Such people might prefer and excel in situations where they are working in a face-to-face environments. If this "talkativeness" does not translate into an online arena, it would be consistent with the findings of the current study. No conclusions on this can be drawn until the research literature in this area has been greatly expanded.

The third factor examined in relation to leader emergence was Neuroticism, or the degree to which a person is emotionally unstable, including feelings of self-doubt and wariness. Unlike Extraversion and Openness, which have consistently been found to be positively related to

leadership emergence (Judge et al., 2002b), research has shown a consistent negative relationship between Neuroticism and leadership emergence across a number of studies of face-to-face groups in meta-analysis (Judge et al., 2002b). However, neurotic individuals consistently report feeling more stable in an online environment due to having the opportunity to consider their responses and to feel safer in the visual anonymity of an online environment (Blumer & Doring, 2012). These factors likely conflict, and therefore it was hypothesized that because neurotic individuals feel more comfortable and stable in online environments (Blumer & Doring, 2012; Ehrenberg et al., 2008), the effect observed in face-to-face groups would not be observed, and therefore Neuroticism would be unrelated to leadership emergence in this particular study; in other words that neurotic individuals might become leaders in an on-line environment despite their lack of doing so in face-to-face environments. In fact, neuroticism, in , did not predict a higher or lower tendency to emerge as a leader in this online environment.

The relationship between Conscientiousness and leadership emergence was also examined, and no relationship was found between these variables. Some past research has shown that Conscientiousness was robustly positively related to emergent leadership (Judge et al., 2002b; Judge et al., 2002a). Conscientiousness frequently related to high performance in the workplace (Barrick & Mount, 1991), indicating that conscientious individuals both appeared and actually behaved more competently within this setting. This increased competence likely explains the relationship between Conscientiousness and leader emergence in a face-to-face environment. However, this competence may not be as evident in an online environment where speed and immediate competence has been found to be less important than a final, well-thought out post. Since all individuals have the ability to consider and adapt their responses over a long

period of time, Conscientiousness may not be as important in an online situation. This perspective would be consistent with the findings of the current study.

The last personality trait examined in relationship to leader emergence was Agreeableness. A hypothesis, which was supported, expected no relationship between Agreeableness and emergence in the online environment. Agreeable individuals tend to treat other people well, and generally attempt to maintain peace and to appear socially acceptable (Graziano and Tobin, 2002). Given that agreeable people are likely to strive to please others, they are unlikely to post on topics that might cause other people to become upset. Thus, it is possible that topics that agreeable people post may not be as likely to stimulate conversation in an online environment, and that this tendency may act as a intervening factor in their tendency to emerge as leaders in this environment.

Given the specific platform for studying leader emergence in the current study was an online forum about violence prevention, an additional research question was explored. Specifically, the current study examined whether past experiences of violence—particularly during childhood—would relate to leader emergence in this specific context. The stated goals of the "We Can Prevent Violence" facebook group were to use educational means as a way of promoting violence prevention. There have been no previous studies exploring the link between Adverse Childhood Experiences and activism in any form. However, it has been demonstrated that individuals who have experienced violence and victimization have been shown to, later in life, seek to help and treat victims of violence and abuse at greater levels than the general population (Barr, 2006). In the current study, it was expected that those who experienced violence would emerge as leaders in this environment due to their potential greater interest in helping others. It was also possible that they would show a greater overall interest in the subject

matter and perhaps have a greater likelihood to seek out more information on violence-related topics. However, these hypotheses were not supported; individuals who experienced adverse childhood experiences did not emerge as leaders in this online context any more than others did. This might be partially due to the restriction in range on this scale; the majority (67%) of participants had few, defined by two or less, adverse experiences during childhood. Alternately, it might be that victims of past trauma—as a whole—are less likely to want to discuss violence in an online environment. Additionally, such experiences could relate to PTSD symptoms (Anda et al., 2006), and these symptoms could be exacerbated by discussing these experiences in a forum in which people could disagree with them or otherwise inflame the situation. A larger proportion of the sample had over 5 or more adverse childhood experiences than would be expected in the normative sample (18.2% vs. 11%). Studies have found ACEs to be dose dependent, at least in the case of negative health outcomes. In other words the higher number of adverse childhood experiences one was subjected to, the more negative health outcomes were probable later in life (Anda & Felitti, 2011). Also, Barr (2006) found that individuals within the helping professions experienced ACEs at a higher rate than the general population, and often reported this as an important factor in their career decisions. However, no research has been conducted to see if these effects would translate to activism on violence issues within an on-line environment.

Goals of this study were to both investigate the effects of personality characteristics on leadership emergence in an online community and to propose and scrutinize a novel manner in which to conduct such a study. Within schools, non-profit organizations, and for-profit organizations, as well as in everyday life, people are using online communication platforms more and more to work, socialize, advocate for change, and affect the world around them (Wood &

Smith, 2004). In this increasingly complex and computer-oriented world, a significant number of interpersonal interactions take place online rather than face-to-face, and this trend is likely to continue (Wood & Smith, 2004). Given the relatively recent emergence of computers and the internet revolution, research into this topic has lagged behind technology, both in terms of the quantity of studies produced and the development of innovative and valid methodologies by which to study the interaction between personality and leadership emergence in an online setting. Therefore, this study sought both to add to the existing literature and proposed a novel method in which to produce said research in the future.

A major strength of this project was its use of multiple objective methods for data collection. No research study to this point has employed a valid and reliable self-report personality measure and then compared this to an objective measure of leadership in an online environment. Prior studies of online communities were limited in their ability to draw conclusions because any information collected about personality had to be gleaned from the nature of the text posted and any other available online data about participants. By contrast, this study uses an accepted measurement tool for personality, the Big Five Inventory (BFI). In terms of leadership emergence, this study defined emergence by the amount of responses a post receives, which was an objective measure that allows for quantitative analysis. Prior studies of leadership emergence in online environments were qualitative in nature (Amichai-Hamburger, 2002; Amichai-Hamburger et al., 2002; Blumer & Renneberg, 2010; Blumer & Doring, 2012). A quantitative measure may, in this case, be an improvement over qualitative methods in that it could control for possible experimenter bias which could be present when researchers interpreted statements made on online forums in a case by case rather than an operationalized manner. This

study therefore provided one novel approach in the quest to find and evaluate best practices for research in this still-developing area.

The specific population sample used in the current study was found to differ somewhat, but not significantly, from normative samples used in other studies. The most popular normative sample for the Big Five Inventory was observed by John & Srivastava (1999) which was taken from a convenience sample of the University of California Berkley. For the purpose of clarity, each of the Big Five traits will be discussed separately. The normative mean for Extroversion is 3.25 (SD = .90), while the mean for the sample in this study was 2.86 (SD = .73) which was slightly more than one standard deviation higher (.53) and therefore not significantly different. This suggested that though the study sample was somewhat less extroverted than those in the sample mean they were not significantly different. The normative mean for Agreeableness is 3.64 (SD = .50), while the sample mean in this study was higher, with an average of 4.01 (SD = .50). Therefore, though the sample was slightly more agreeable, on average, than the normative sample, again, they did not differ more than one standard deviation (.74) which was within acceptable limits. The normative mean for Conscientiousness is 3.45 (SD = .73) while the sample mean in this study was higher, at 4.01 (SD = .50). Therefore, though the sample was more conscientious, on average, than the normative sample it again differed by under one standard deviation (.76) which was not significant. The normative mean for Neuroticism was 3.32 (SD = .82), while the sample mean in this study was lower, at 3.06 (SD = .88). Therefore, this sample was less neurotic, on average, than the normative sample but within a half of a standard deviation (.30). Finally, the normative means for Openness to Experience was 3.92 (SD = .66), while the sample mean is 3.61 (SD = .61). Therefore, the sample mean was lower than the normative mean though not significantly so at roughly half a standard deviation (.46).

Besides personality measures, this study's sample also differed somewhat from a normative sample in terms of Adverse Childhood Experiences (ACE) scores. A comparison of ACE scores from this study's sample with the national sample collected by Anda & Felliti (2011) yielded the following differences. In the Anda & Felitti (2011) sample, 33% of respondents reported no ACEs, while in this sample, 29% reported experiencing zero ACEs. In the Anda sample, 25% reported 1 ACE, while in thissample, 26.5% reported 1 ACE. Additionally, in the Anda sample, 11% reported at least 5 ACEs, which was considered to be a high number of ACEs, while in this sample, 18.2% reported experiencing 5 or more ACEs, which is 60% higher than the normative sample (Anda & Felitti, 2011). This difference might be explained by the fact that much of this study's sample population came from higher level psychology courses. Barr (2006) found that individuals within the helping professions had a significantly higher propensity to report ACEs than a normative sample. Therefore, the larger than average number of individuals reporting 5 or more ACEs in this study is consistent with her conceptualization of "wounded healers." It would have been predicted that these individuals would have participated at greater levels than others on the "We Can Prevent Violence" facebook group. However, they did not.

Limitations

Several limitations of the current study may have driven its lack of significant findings. These include three primary limitations: a small sample size, the nature of the group studied and an untested dependent variable. Other limitations include the possibility that the Five Factor model is too broad, the use of self-report to obtain personality and ACE data, the fact that students were extrinsically motivated to participate in discussion through extra credit, and the

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fact that the online discussion group had no moderator. After considering these issues in detail, possible strategies to ameliorate such limitations in future research will be proposed.

A major limitation of the current study was its small sample size, which did not reach the goal of 94 participants. This desired sample size would have provided an appropriate power to determine an effect size of .15 at a desired statistical power level of .08 and a probability level of .05, when there are 2 independent variables to be controlled for (age and gender) and five independent variables of interest in a hierarchical multiple regression. Due to the necessity of removing some participants from the sample for either not fully completing the study measures or for not participating in the "We Can Prevent Violence" Facebook group, the current study's final sample size was 49. Using a sample size of 49 versus the goal of 94 means that the current study had limited statistical power for detecting significant relationships between the independent variables (in this case Big Five personality characteristics and Adverse Childhood Experiences), and emergent leadership as defined in the context of the study. It is impossible to know what, if any, differences there may have been in the results if this larger sample goal had been reached. While it is possible that the greater statistical power afforded by a larger sample size may increase the likelihood of detecting any significant relationships, it is also possible that the results would remain unchanged. Historically, the study of personality characteristics and their value in predicting an individual's actions in various situations had been plagued by a lack of significant findings until the advent of meta-analysis allowed for the inclusion of many times the amount of participants and, therefore, provided significantly higher analytic power (Stogdill, 1948; Judge et al., 2002b; Mischel, 1973). In fact, correlations within this study are similar in size to those in the Judge et al. (2002b) sample. Therefore, the additional power provided by a significantly increased sample size means that a correlation of, for example, .20 would be judged

as significant, whereas such a correlation would not be significant in a sample size of 45. A comparison of the Judge et al. (2002b) correlations and those in the current study are provided in Table D7.

Besides the small sample size, another drawback to the current studies was the nature of the situation. Due to the manner in which Facebook operates, different posts are not displayed to users for the same amount of time. Therefore, a post which might have caused a great deal of discussion can get "buried" if it is made at a time of high volume posting, such as at the end of the semester when students posted quickly in order to attempt to meet extra credit thresholds. In a perfect world, this could be controlled within the analysis, however Facebook does not make data such as display periods available to researchers, making this impossible. Additionally, though it was not found to be significant, the fact that individuals who are at different point in their collegiate careers were within the same group could be confounding. Some group members reported frustration stemming from the differing levels of refinement originating from different members within the group. This may well have led some members to disengage from the group. In this same vein, group members from different classes have different topics which they would like to discuss. It is possible, therefore, that individuals from classes with larger sample representations received greater numbers of responses because other members of their class were primed to respond to topics on which they are more likely to post. Finally, there is the question of how many leaders can actually emerge in such a group. Is leadership something that one possesses or does not possess, or does it exist on a continuum? Also, how many leaders can a group actually accommodate? If the answer is that a group will have, at most, a very small number of leaders, then perhaps the methods utilized in this study, which attempt to identify the

possession of a certain amount of a trait, where not capable of identifying those members who actually rose to such a role.

Additionally, the fact that posts were tracked for a limited timeframe (one academic semester) meant that fewer posts were able to be collected, and therefore many of the study participants had only one or two posts contributing to the average amount of responses to each post that they received. This unfortunately resulted in some participants having a single post which received a very high or very low amount of posts, which inordinately skewed those participant's results in an extremely positive or negative direction.

The third major limitation of this study was that its definition of emergent leadership (the average number of responses that individuals receive on posts) may not be a valid measure of emergent leadership. This measure was chosen because it provided an objective dependent variable to measure emergent leadership. Prior studies have utilized rating systems in which group members are asked to rank other group members according to the amount they feel that these individuals were leaders within the group (Judge et al., 2002b) or have analyzed responses of other group members for content suggesting that the poster is a leader (Huffaker, 2010; Cassell et al., 2006; Waters, 2012). The current study's unique measure of average responses to original posts provided a quantifiable method for measuring emergent leadership. This was considered a strength in terms of developing an objective tool for this emerging research area. On the other hand, it is also a weakness, since its very originality for use in an online setting means that the validity of this measurement criteria has been unstudied as of yet. It is possible that responses to posts alone is not an adequate measurement of leadership emergence, and that a combination of the quantitative approach that Judge used for in-person discussion groups and the

qualitative approaches that Huffaker, Cassell, and Waters used for online groups would be a better measure of emergent leadership in an online environment.

An additional limitation is that, currently, it is unknown if the Big Five Inventory is an effective tool with which to predict leadership emergence in an online environment. Specifically, the five factor macro-traits may be too broad to truly predict leadership in all situations. Recent research has shown that specific facets of each Five Factor trait might be more predictive of behavior than utilizing the five macro-traits (Paunonen & Ashton, 2001). For example, facets of Extraversion include items like Warmth and Assertiveness (Costa, Jr., Terracciano, & McCrae, 2001). Two individuals rating themselves high in Extraversion may have a very different facet profile within this macro-trait. While both are rather extroverted, one may be higher in Warmth, while the other is much higher in Assertiveness, and this may affect the tendency of each to assume leadership roles. As such, using the more detailed facets of Big Five personality traits might be more predictive of emergent leadership. However, the current study—using the relatively short Big Five Inventory—lacks the ability to make this empirical determination. Even with this short 44-item survey, 6 participants stopped responding before completing the survey. It is very likely that, had a survey many times this length been used (as would be required to assess detailed facets), many more participants would have discontinued before finishing the survey.

Another limitation of the current study was the use of self-report to obtain data for both the personality measure and the ACE scale. Common method bias, particularly social desirability, is a concern for any measures using self-report (Podsakoff, Mackenzie, & Podsakoff, 2012). Social desirability might lead individuals to intentionally select responses which they believe would cause the researcher to judge them more positively. In other words

individuals are more likely to respond positively to desirable personality characteristics (e.g., Conscientiousness) and negatively to undesirable personality characteristics (e.g., Neuroticism). However, it is unclear whether alternative sources, such as the reports of an instructor or peers regarding personality and life experiences, would be any more accurate, since studies have shown that correlations between self-report and other-report of personality range between .32 and .54 (e.g., Kluemper, McLarty, & Bing, 2014). The question here is, therefore, do others' opinions about the qualities of an individual, one with which they might have very little experience, really add to anunderstanding of that person's personality more than a self-report measure alone? Unfortunately, even though self-report is not a perfect instrument, it may be the best tool currently available for these measures, which is likely why self-report is the most common method used for the study of personality characteristics (Judge et al., 2002b).

The use of extra credit to extrinsically motivate participants to participate in this online group was also a limitation. Specifically this may have had an effect on the type of individual motivated to post. Mischel (1973) found that the power of the situation is often more important in determining how an individual will behave than personality characteristics. In this case there was a statistically insignificant, but positive, correlation between conscientiousness and amount of responses to posts. It is possible that the fact that individuals were offered extra credit in exchange for participating in this group changed the demand characteristics from being an intrinsic form of activism to being extrinsically grade-motivated for some individuals within the sample. In another environment where individuals are purely intrinsically, rather than extrinsically, motivated to participate, it is possible that findings could be very different.

Finally, the decision not to use a moderator for the online discussion group could be considered a limitation of the current study. In the case of this study, because the topic that was

being studied was emergent leadership, it was thought that the use of moderators might have undue influence on which individuals rose to leadership roles. While some informal moderating effect may have been present due to the fact that students knew that their professors had access to their posts, there was no formal moderation provided. Unfortunately, in this un-moderated environment, several group members shaped their arguments in manners that were punitive and somewhat aggressive towards other group members, creating an environment in which some of the group participants reported feeling uncomfortable. Joinson (1999) observed that some aspects of personality may manifest very differently in an online versus and in-person environment. For instance, a person who is generally withdrawn in person might feel more comfortable expressing themselves in a "safer" online environment (Joinson (1999). It is possible that the type of "safe" environment which Joinson describes was not created in this case due to lack of moderation. Ways to address this and other limitations of the current study will be provided in the following discussion of implications for future research.

Implications for Future Research

The studies that have in the past been successful in identifying general trends between personality and leadership have been extremely large meta-analytic studies with participant numbers in the thousands. Therefore, there are two prospective ways to move forward in the research of emergent leadership pertaining to online discussion groups. The first of these would be to create one large study with many times the number of participants that appeared within the current study. The best way to do this would be to first get individuals to complete a valid and reliable measure of personality within some form of pre-existing online discussion groups and then to track their posts over the course of several years. Analyzing posts over a longer period of time would provide more posts, which would help to control for outliers among data points. In

other words one post which receives a very higher number of replies would not as severely affect the average amount of responses a participant received over a very large number of data points, helping to ensure that any observed effects are real and not simply the results of a single extreme data point.

The second way to address the limitation of small sample size would be to use a meta-analytic approach. As stated previously, historically, significant findings have not been found without sample sizes many times those of the current study utilizing meta-analysis (Judge et al., 2002b). Therefore, employing such an analysis in the manner that Judge and his collaborators have found successful may be warranted (Bono & Judge, 2004; Judge et al., 2002a; Judge et al., 2002b; Judge et al., 2009). Unfortunately, due to the paucity of research in this area, this approach would require waiting for studies similar to the current investigation to reach a critical mass, allowing for their results to be aggregated and analyzed.

In addition to issues with sample size, another major limitation of the current study is the use of an objective measure (average number of responses to an individual's posts) to indicate leadership emergence that remains unstudied in terms of validity for an online setting. Examples of methods utilized in previous studies include, from the Judge et al. (2002b) in-person study: having group members rank other members according to their perception of leaders within the group, and in online studies conducted by Huffaker (2010), Cassell et al. (2006), and Waters (2012): analyzing content for material suggesting leadership. As has been suggested previously, it may be that using a combination of the methods used in the current study in conjunction with those used in prior studies could help to establish convergent validity between methods.

Another limitation mentioned, the fact that the Big Five Inventory may have provided too general a measure of an individual's personality, could be rectified by utilizing a significantly

longer and more in-depth measure, such as the 240 item Revised NEO Personality Inventory (NEO PI-R). This measure would provide more detailed information about study participants' personalities, including individual facets of each Big Five trait (such as Warmth or Assertiveness within the Extraversion trait). However, as was noted previously, 6 of the current study participants did not finish the much shorter 44-item Big Five Inventory, which might mean that a more motivated sample would be necessary if a longer measure were to be used.

Another limitation of the current study was the fact that participants were extrinsically motivated to participate in the group (due to extra credit) rather than intrinsically motivated. Since the nature of a situation has been found to have an important effect on the manifestation of personality characteristics (Mischel, 1973), it is possible that the extrinsic motivation specific to this study had an impact on which participants were more likely to be active in the discussion in the pursuit of extra credit. Therefore, a similar study should be replicated under circumstances in which no extra credit or monetary reward is provided in order to ensure that results are not skewed.

Another limitation of the current study that has been discussed regards the lack of formal moderation in the group. This may have impacted the creation of a "safer" online environment that can lead to changes in how personality manifests online, as observed by Joinson (1999). Indeed, the aggressive and possibly intimidating manner with which some participants pursued their arguments may have been a result of this lack of moderation. For future research, it may be useful to provide some measure of moderation without unduly compromising the "leaderless" quality of discussion by adopting a style of limited moderation similar to that used by the Reddit and Yahoo online discussion communities.

Besides simply ameliorating limitations of the current study, several possible avenues for future studies exist that could further research in the area of online leadership studies. First, other predictors of leadership emergence in an online environment, besides personality, may provide fruitful insight. For example, researchers could investigate technical skills and computer ability, as those that are more comfortable with technology could be expected to be more likely to post. Such assumptions are supported by the finding that individuals who are deficient in computer skills when compared to their peers tend to drop online courses at higher levels (Diaz, 2002) than those who are proficient. Therefore, controlling for computer literacy with a computer skills and interest survey could be useful. Also, researchers could investigate whether there are generational/age differences in leadership emergence in an online forum. Research has consistently shown that older individuals are less comfortable with computers and technology (Czaja & Sharit, 1998; Hendrix, 1999; Wagner, Hassanein, & Head, 2010) and this would likely predict leadership emergence online. Alternately, different personality traits might predict emergence for younger adults versus older adults.

Considering the profound, and somewhat unpredictable, effects that different situations have been discovered to have on how personality characteristics manifest (Mischel, 1973), another future research area would be to study a variety of types of online discussions centered around diverse topics. It is important not to assume that all online groups constitute similar situations for emerging leadership. For instance, it is likely that the demand characteristics for leadership in an online student violence discussion group are be very different from those of an online fantasy football group or an online parenting discussion board. By studying a variety of online discussion groups with varying demand characteristics, it may be possible to extrapolate which characteristics are relevant to how personality expresses itself in differing online contexts.

Finally, the specific topic of the online group under study could lead to future research into the study of the impact of violent experiences on emergent leadership. The lack of a significant statistical relationship between adverse childhood experiences raises a number of questions regarding the possible relationship between violence prevention and violence activism. The first question is: do experiences with violence have a different effect on violence activism than they do on an individual's likelihood to join a helping profession as observed in the Barr (2006) study? Secondly, is the association between adverse childhood experiences dose dependent, as it is with negative health outcomes (Anda & Felitti, 2011), or does a single adverse childhood experience incur the effect at the same level that multiple such experiences would? Finally, do higher rates of experience with violence make a person more likely to emerge as a leader in violence activism forums than individuals without this experience? While it would make sense that the answer to this last question would be that individuals coming from such backgrounds would be more likely to become leaders due to posting poignant and thoughtful responses when discussing violence, there has not been research at this time to demonstrate this point. Certainly, from an anecdotal standpoint, it would seem to be the case that individuals who have experiences of domestic violence, forced prostitution, and other abuse would be best suited to lead the charge against these social ills. However, the current study does not bear out this expectation, which may suggest a more complicated interaction than expected between violence activism and experiences with violence.

A major motivation for studying emergent leadership in an online environment was the Arab Spring. At the time when this project began, the nascent revolutions were viewed as a positive development for the Middle East (Howard, Duffy, Freelon, Hussain, Mari, & Mazaid, 2011). However, as events unfolded, they became viewed as having a generally negative effect,

with the region becoming more unstable than ever before (Cook, 2016). It could very well be that individuals who are adept at securing online leadership roles in the partially anonymous context of the internet are not the same who rise to power when in-person leadership becomes necessary. In the case of the Arab Spring, this leadership vacuum when revolutionary ideas were translated to action led to very negative consequences. This highlights why garnering a greater understanding of who has a tendency to emerge as a leader as a function of various demand characteristics will become more important as online interaction becomes a greater part of the today's world.. What was once, and for most of psychological academia continues to be, a niche area of interest is now is affecting political realities on a global scale. For psychology to remain applicable in answering questions which will help to create a better world, it must recognize the fact that the internet has become central to the way in which the world works and, in response, develop and research best practices for studying online settings. Not only will such research benefit the field in remaining relevant, it will also benefit humankind by illuminating how interaction vary as humanity progresses into new, and for now, unpredictable situations which will shape society for many years to come.

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Big Five Inventory

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which **you agree or disagree with that statement.**

1	2	3	4	5
Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly

I am someone who…

1. _____ Is talkative

2. _____ Tends to find fault with others

3. _____ Does a thorough job

4. _____ Is depressed, blue

5. _____ Is original, comes up with new ideas

6. _____ Is reserved

7. _____ Is helpful and unselfish with others

8. _____ Can be somewhat careless

9. _____ Is relaxed, handles stress well.

10. _____ Is curious about many different things

11. _____ Is full of energy

12. _____ Starts quarrels with others

13. _____ Is a reliable worker

14. _____ Can be tense

15. _____ Is ingenious, a deep thinker

16. _____ Generates a lot of enthusiasm

17. _____ Has a forgiving nature

18. _____ Tends to be disorganized

19. _____ Worries a lot

20. _____ Has an active imagination

21. _____ Tends to be quiet

22. _____ Is generally trusting

23. _____ Tends to be lazy

24. _____ Is emotionally stable, not easily upset

25. _____ Is inventive

26. _____ Has an assertive personality

27. _____ Can be cold and aloof

28. _____ Perseveres until the task is finished

29. _____ Can be moody

30. _____ Values artistic, aesthetic experiences

31. _____ Is sometimes shy, inhibited

32. _____ Is considerate and kind to almost everyone

33. _____ Does things efficiently

34. _____ Remains calm in tense situations

35. _____ Prefers work that is routine

36. _____ Is outgoing, sociable

37. _____ Is sometimes rude to others

38. _____ Makes plans and follows through with them

39. _____ Gets nervous easily

40. _____ Likes to reflect, play with ideas

41. _____ Has few artistic interests

42. _____ Likes to cooperate with others

43. _____ Is easily distracted

44. _____ Is sophisticated in art, music, or literature

Appendix B

Coding Manual

We Can Prevent Violence Coding Manual
Dr. Berman
Rachel Posner
Ashley Kasardo
Adam Clarke

<u>CODING GUIDELINES</u>

First, general coding rules will be outlined that apply to the overall process of coding. These will be followed by descriptions of the 27 coding categories: 1) Comment ID, 2) Post Type, 3) Originator, 4) Administrator Admin, 5) Poster Name, 6) Administrator/Participant, 7) Gender,8) Comment Date, 9) Post Time, 10) AM/PM, 11) Coder, 12) Date Coded, 13) Dominant Content, 14) Other Content, 15) Thread Total, 16) # Participant Posts, 17) # Administrator, 18) Length, 19) Provocation, 20) Agreement, 21) Praise, 22) Solutions, 23) Dominant Topic, 23) Other Topic

General Coding Rules

Every post in the Facebook group, "We Can Prevent Violence" will be coded. Exceptions to this guideline include extremely short, clarifying posts and double posts that are part of the same thought and posted immediately after one another. Below are some examples of these exceptions:

Example 1:   **Ryan Cook** Very graphic*
              September 17 at 8:38pm   (Posted in response to a video posted by himself)

Example 2:   **Jessica Overman** this is probably similar to the case where Thomas Haney Jr. abused his girlfriend's 4 year old to the point where he killed him. Now the mom is charged with
              September 21 at 3:11pm · Like
              Jessica Overman sorry about that i got the name wrong its patrick haney
              September 21 at 3:13pm   (Second post corrects previous one)

However, a double post that is not part of the same thought will be coded as two separate posts. Below is an example:

Example 1:   **Ashley Kasardo** A 14-year old boy committed suicide because of the bullying he faced for coming out as bisexual. He left a blog post saying that no one listens to him about the bullying he faced. What are your reactions to this video?
              September 26 at 8:56am · Like
              Ashley Kasardo Don't forget to check out the Document on the right discussing the It Gets Better Project

Coders will enter codes into an Excel coding sheet. All irrelevant posts will be counted, and coded as such. Inter-rater reliability will be determined by comparing two coders. After this is achieved, the data of the master coder will be used.

Categories 1-11: Descriptive Codes

Categories 1-11 include descriptive codes:
Category 1, Comment ID: Each post will receive an ID number, assigned by the coders.
Category 2, Post Type: If a post is original, it will be coded as 0, indicating it is new. All subsequent responses will be labeled ordinally, starting with 1.
Category 3, Originator: The original poster's name will be coded for every post.
Category 4, Originator Admin: If the originator of the thread is a group administrator code 1 otherwise, 0
Category 5, Poster Name: The name of the poster will be recorded for every post.
Category 6, Administrator/Participant: The coder will note whether the post was made by an administrator (1) of the Facebook group or by a participant (2). The names of the administrators are listed on the group page.
Category 7, Gender: The gender of the poster will be coded. If the gender of the participant is not apparent, this category should be left blank. Female will be coded as 1 and male will be coded as 2.
Category 8, Date: The date the post was made will be recorded.
Category 9, Time: The time of each post will be recorded. Coders should refer to the timestamp below the post, and round it down to the hour.
Category 10, AM/PM: For each post time, AM (1) or PM (2) will be coded.
Category 11, Coder: The Coder will indicate who is coding the post with either 1 (Ashley Kasardo) or 2 (Rachel Posner).
Category 12, Date Coded: The date that the coding sheet for the post is filled out will be recorded.

Categories 13 and 14: Dominant Content and Other Content

Second, the dominant content of post will be coded. Content of posts include websites (1), videos (2), news articles (3), discussion questions (4), scenarios (5), photographs/advertisements/pictures (6), stories (7), reminders (8), opinions (9), facts (10), and irrelevant posts (11). The main type of content will be coded for each post, and will be coded with its corresponding number. Websites will be distinguished from links to videos or articles. If the content of a website is referred to outside of the video or article content, then it will be coded. Otherwise, links to videos or articles will be coded as such.In choosing the dominant content of the post, categories 1-6 will take precedence. Opinions and facts will be coded as dominant if no clear form of media was presented.
For "other content," all other content that applies to the post will be coded. Each category will receive a "0" if it does not apply or a "1" if it does apply to the post. The example below is a personal story.

Example 1, Personal Story: **Krista Nicolle Mader** This is an issue I have dealt with personally. When I was in high school, I noticed a boy I went to school with and also worked with was cutting himself, and I knew he had attempted suicide before. Since we were not that close, I did not feel it was my place to say anything to him about it. To this day I still regret never reaching out to him, because about a month after I noticed this, he committed suicide. Sometime I still wonder maybe if I had just reached out to him, showed him someone did care, maybe he would still be here. I think if I was faced with this issue now, I would definitely reach out to the person. You never know, they may take offense and get angry, but you could also save someones life.

September 24 at 9:43pm

Categories 15-18: Post Type, # Responses and Length

Category 15, Thread Total: The total posts in a thread will be tallied and coded for each post. Whether the post being coded is an original or response, the thread total includes the original and all responses.

Category 16, # Participant Posts: The thread total category will be broken down into two categories, one being participant posts. Any post in the thread left by a group member will be tallied.

Category 17, # Administrator Posts: The second category of thread total is administrator posts, being the tallied number of posts in the thread left by administrators. This number combined with the participant response number should be equivalent to the coded number of the thread total. Administrators include: Pearl Berman, Maureen McHugh, Beth Watson, Rachel Elana (Rachel Posner), Adam Clarke, and Samantha Sciarillo.

Category 18, Length: The length of the post will be coded using three categories: short, medium, and long. The short category (1) will be coded for posts ranging between one to two sentences. Posts ranging between three to five sentences will be coded as medium (2). The long category (3) will be coded for posts that contain six or more sentences.

Emily Gagliardi I just read this article this morning and was shocked that someone would feel enjoyable by killing an innocent child. She seems to have no remorse too, which makes it so much worse.

February 8 at 6:33pm

Category 19: Provocation

Occasionally, students in the group write comments to intentionally provoke other people. These comments may be labeled as "trolling," in which posters write controversial posts in order to get a reaction out of other posters. Provocation is not very common, but will be coded

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with a "1" if present, and a "0" if it is not present. Provocation can be understood as not addressing both sides to an issue and dogmatically defending an inaccurate or offensive position. Below is an example of a provocative statement:

Steven Weible I just wish he would have been carrying an extra clip. The laptop could have used a few more holes in it. Maybe a 12gauge would have done a better job. I can't stand disrespectful kids when they have a good family, and very nice parents. It seems the girl was spoiled anyways, and it isn't like she really had that many things to do around the house.

Friday at 1:11pm · Like

Category 20: Agreement

We will also be coding for agreement. This is when a poster clearly agrees with the statement of another poster. The poster must explicitly state that they agree. Agreement will be coded with a "1" if it is present; if not, this category will be coded with a "0." Below is an example:

Dallas Malis

i agree with mrs. watson about the laptop. hell i could use a new lap top for that matter he should have not shot it up with a gun but i agree with everything else he did including putting it on facebook. if you listen he says how she was grounding before for a similar thing. so handling it inside the house himself obviously isn't working. so when it comes down to it you trade and eye for an eye. if she is going to continue to post inappropriate stuff on facebook, you take the computer away and post one right back so she learns her lesson the hard way. more and more kids are being to spoiled these days

February 10 at 5:12pm

Category 21: Praise

Praise will be coded when a poster compliments the post, ideas, or content of another poster or if they compliment the poster themselves. Thanking a poster for sharing something, supporting their strength to share a difficult story, or saying that someone had a good idea are all examples of praise. Praise will be coded with a 1 if present, and a 0 if not present. An example follows:

Beth Watson Wow, very interesrting...this is something I was not aware of/familiar with...thank you for sharing.

Category 22: Solutions

Although suggesting a solution is coded for in the advocacy category, this category is meant to capture the quality of the solution suggested. If no solution is suggested, this category will receive a code of 0. If the solution suggested is a pro-prevention, it will be coded as 1. Pro-

prevention solutions include suggestions related to education, warning signs, and social programming. This type of solution takes into account a variety of societal factors. A pro-punishment solution will be coded as 2. These solutions involve incarceration and lengthening sentences. The third category of punishment is pro-violence, which will be coded as 3. Pro-violence solutions involve killing or hurting someone in some way. This includes the death sentence. Below are examples of the three types of solutions:

Pro-prevention:
Tiffany Zurow I feel our government needs to find a way to get this kind of stuff under better control. Not only is dealing and stuff running down our economy, but the dangers are only being intensified. People like this dude have no self control but we can control them getting a hold of stuff like bath salts

Pro-punishment:
Kelsey Corrado This breaks my heart, and also makes me sick to my stomach. Words do not describe how awful, heartless, sick, twisted, & repulsive this is. I can't even find words for it, myself. I hope that he was punished for what he has done. It is just awful.

Pro-violence:
Justin Myers This is so disgusting, how could you even have the thought of having any type of sexual activity with a little baby. The fact that a man would do something like this to his baby daughter is so gross and shocking. This man deserves the death sentence.

Categories 23 and 24: Dominant Topic and Other Topics

The topic of each post will be coded. Each post will be coded with the topic that is most central to the post. Topics include but are not limited to: child abuse (this includes physical, sexual, and emotional) (1), child neglect (2), child pornography/prostitution/trafficking (3), bullying (4), adult abuse (this includes physical, sexual, and emotional) (5), adult neglect (6), adult pornography/prostitution/trafficking (7), general violence (8), suicide (9), resiliency (10),gender (11), LGBT issues (12), other general psychology (13), other psychology of women (14), and race (15). Posts will receive a code with the number that corresponds to the most dominant topic. Some of these topics are intertwined; if no reference is made to clear aspects of a topic, the topic dominant in that particular thread should be coded. Topics that do not quite fit into a category can be coded as general violence. They will be coded as either general psychology or psychology of women if a reference to that class is explicitly stated. The dominant topic is the one mentioned most often or most central to the post. If one topic does not clearly emerge as dominant, the dominant topic should be chosen as the topics appear in order (ie child abuse over adult abuse, adult abuse over gender, etc).

All other relevant topics to the post will be coded with either a 0 (not applicable) or a 1 (applicable). As many that relate to the post can be coded.

The below example would be coded with a dominant topic of bullying, with other topics including suicide and child abuse:

This is an article that talks about a sixteen year old boy that was bullied so much that he committed suicide. It is so sad that this boy thought that the only way he could escape the bullying and abuse was to take his own life. I think that more resources and people need to be available to help stop this uprising occurrence of bullying.
http://www.timeslive.co.za/local/2012/02/21/bullied-into-suicide

Like · · Follow Post · Share · February 20 at 9:30pm

References

Cordova, J. V., Jacobson, N. S., Gottman, J. M., Rushe, R., & Cox, G. (1993). Negative reciprocity and communication in couples with a violent husband. Journal of Abnormal Psychology, 102 (4), 559-564.

Weiss, R. L., & Summers, K. J. (1983). Marital Interaction Coding System–III. In E. E.Filsinger (Ed.), *A sourcebook of marriage and family assessment* (pp. 85–115). Beverly Hills, CA: Sage.

Excel Spreadsheet Coding Guide

Post Type: 0 for original, 1, 2, 3, etc. for following posts
Originator and Poster Names: exactly as written
Administrator: 1, Participant: 2
Gender: Female 1
       Male 2
Dominant Content: websites (1)
           videos (2)
           news articles (3)
           discussion questions (4)
           scenarios (5)
           photographs/advertisements/pictures (6)
           stories (7)
           reminders (8)
           opinions (9)
           facts (10)
           irrelevant posts (11)
Length: 1-2 sentences (1)
         3-5 sentences (2)
         6+ sentences (3)
Solution: pro-prevention (1)
         pro-punishment (2)
         pro-violence (3)
Dominant Topic: child abuse (this includes physical, sexual, and emotional) (1)
            child neglect (2)
            child pornography/prostitution/trafficking (3)
            bullying (4)

adult abuse (this includes physical, sexual, and emotional) (5)
adult neglect (6)
adult pornography/prostitution/trafficking (7)
general violence (8)
suicide (9)
resiliency (10)
gender (11)
LGBT issues (12)
other general psychology (13)
other psychology of women (14)
race (15)

Don't forget!:

Get specific with topics
Consider all five advocacy steps when coding
Double check your coding sheet when you are finished
Praise is praise of a person's idea or contribution, not praise of the content they posted

Appendix C

Informed Consent

The current document is being supplied in order to provide you with information regarding the research project that you are being asked to take part in. This project seeks to investigate the relation of various personality construct with the tendency to emerge as a leader in the online discussion group, We Can Prevent Violence.

Student will complete a short survey requesting various demographic data as well as complete a brief measure of Big Five personality traits. Subjects are expected to participate in the We Can Prevent Violence Facebook group for the entirety of this semester and will be reimbursed by either research credit or extra credit depending what your professor has decided. Posts on this website will then be coded and used to investigate emergent leadership on this group.

The primary investigator in this study is Adam Clarke M.A., and the Faculty Sponsor is Dr. Pearl Berman Phd. IUP is the responsible institution in this study. Information concerning an individual's personality will be collected during the course of this study and, as always it is possible, as with any study, that confidentiality may be breached during the course of this study. Precautions to prevent with from occurring are that all information regarding a participant will be de-identified following this information being linked to coded information taken from the We Can Prevent Violence Facebook Group. Following this de-identification all remaining identifiable data will be destroyed.

Participation in this study is voluntary and refusal to participate at any time will not result in any penalty or loss of benefits that the participant would be entitled to in the absence of the occurrence of this study. If an individual would like to withdraw at any time though should contact Adam Clarke at qjpr@iup.edu and state their intent to withdraw from the study. Upon receipt of this request personality data concerning this individual will be destroyed.

By answering the question on the following pages of this packet your are indicating your willingness to participate in this study. Please retain this document for your records.

THIS PROJECT HAS BEEN APPROVED BY THE INDIANA UNIVERSITY OF PENNSYLVANIA INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS (PHONE 724.357.7730).

Appendix D

Tables

Table D1

Descriptive Statistics for Big Five Personality Characteristics

	N	Minimum	Maximum	Mean	Standard Deviation
Extroversion	49	1.50	4.00	2.86	0.73
Agreeableness	49	3.11	4.89	4.00	0.50
Conscientiousness	49	2.78	4.89	3.86	0.52
Neuroticism	49	1.00	4.50	3.06	0.89
Openness	49	1.70	4.40	3.61	0.61

Table D2

Frequency of Adverse Childhood Experiences in Study Sample

ACE Score	Frequency	Percent
0	14	28.9
1	13	26.5
2	6	12.2
3	7	14.3
4	0	0
5	1	2
6	5	10.2
7	1	2
8	1	2
9	1	2
10	0	0

Table D3

Descriptive Statistics for Original Post Style Discussed on Website

Content	N	%
News	245	27.9
Video	193	22
Website	132	15
Scenario	27	3.1
Photo	26	3
Opinion	9	1
Fact	4	0.5
Irrelevant	1	0.1
Opinion	9	1
Story	0	0
Reminder	0	0
Other	233	25.9

Table D4

Interactions of Commenters

Content	N	%
Provocation	59	6.7
Agree	49	5.6
Praise	74	8.4
Solutions	68	7.7

Table D5

Topics of Comments

Content	n	%	Content	n	%
Adult Abuse	407	46.3	Photo	26	3
Gender	185	21	Adult Porn Gen.	19	2.2
Violence Psych Of	167	19	Psychology	15	1.7
Women Child	99	11.3	Bullying Viol.	6	0.7
Abuse	89	10.1	Misconception	4	0.5

Table D6

Correlations Between Responses and Personality Characteristics/ACE Scores

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Age	21.65	2.57	-							
2. Gender	n/a	n/a	.64**	-						
3. Openness	3.61	0.61	.13	.21	-					
4.Conscientiousness	3.85	0.52	-.03	-.21	.06	-				
5. Extraversion	2.86	0.72	-.07	-.04	.17	.30*	-			
6. Agreeableness	4	0.5	.01	- .30*	.09	.33*	.07	-		
7. Neuroticism	3.06	0.88	-.09	-.18	-.34*	-.14	-.54**	-.21	-	
8. ACE	2.14	2.38	.05	-.08	.32*	.15	-.01	-.24	-.05	-
9. Post Responses	1.36	.64	-0.1	-.15	-.22	.08	-.17	-.09	.19	.13

Note. Descriptives and correlations are based on a sample size of $n = 49$.
*$p < .05$; ** $p < .01$

Table D7

Comparison of Correlations in Current Study and Judge et al., 2002

	Judge (2002) N	Judge (2002) r	N	R
Neuroticism	8,025	-.17	49	.19
Extraversion	11,705	.22	49	-.17
Openness	7,221	.16	49	-.22
Agreeableness	9,801	.06	49	-.09
Contentiousness	7519	.2	49	.08

Note. Descriptives and correlations of current study are based on a sample size of n = 49.

*p < .05; ** p < .01