THESIS

THE IMPACT OF BULLYING AND ACT VARIABLES ON MEANING IN LIFE FOR

ADOLESCENTS

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Maeve Bronwyn O'Donnell

Department of Psychology

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Master's Committee:

      Advisor: Michael F. Steger

      Ernest L. Chavez
      Daniel J. Graham
      Nathaniel R. Riggs

ABSTRACT

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Research has shown that the experience of a meaningful life for adolescents is an aid in development and related to psychological health, physical health, and academic functioning (e.g., Brassai, Piko, & Steger, 2011; Kiang & Fuligni, 2009). Most meaning research to date, however, has primarily focused on adulthood, with few studies that focus on meaning in adolescence. Even fewer studies have addressed barriers or facilitators to experiencing meaning in adolescence. The current study seeks to address this gap in the literature with a sample of adolescents (n=145). In the first part of the study, bullying perpetration and victimization are examined as factors that may be associated with less meaning (i.e., inversely related). In the second part of the study, two Acceptance and Commitment Therapy (ACT) related variables, mindfulness and self-compassion, are examined as factors positively related to meaning. A hierarchical regression was then performed to determine if these variables predicted meaning. Results revealed that meaning was inversely related to bullying perpetration, but not bullying victimization, and positively related to mindfulness and self-compassion. Controlling for all other factors, self-compassion independently predicted meaning, which suggests that self-compassion may be highly relevant to an adolescent's development of meaning. Implications and future directions for research are discussed.

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CHAPTER I: INTRODUCTION

The extent to which young adolescents experience their lives as meaningful is an aid in development and linked to overall well-being, mental health, physical health, and academic functioning. There is a strong body of evidence linking meaning and well-being, making it an important target for helping adolescents flourish and develop. Emerging research suggests, however, that negative social events may potentially threaten adolescent meaning development. Bullying victimization and perpetration, prevalent negative social events in the lives of many adolescents, may degrade the opportunity for adolescents to experience a meaningful life, but this hypothesis to date has remained untested. It is also unclear what may aid in the promotion of meaning in adolescents. As meaning is a key facilitator for development and well-being, it becomes important to understand if certain therapeutic constructs aid in the increase of meaning for adolescents. Acceptance and Commitment Therapy (ACT) has strong theoretical links to meaning, but no studies to date have tested relevant components of ACT with meaning in life in an adolescent population. ACT variables may serve as a potential emerging foundation for therapeutic intervention.

A two-part study was conducted in order to determine if a) negative social events (i.e., bullying victimization and perpetration) degrade adolescents' experience of meaning and b) variables related to ACT facilitate meaning for middle school students. For part one of the study, the literature review will investigate meaning as related to adolescent development, psychological health, physical health, and academic functioning. Meaning will then be considered in relation to bullying perpetration and victimization. For part two of the study, ACT will be discussed as a highly related conceptual framework to meaning theory, with a special

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emphasis on mindfulness and self-compassion as relevant ACT constructs. Finally, the current study, which tests the relationship between meaning and bullying and the relationship between ACT variables and meaning, will be discussed.

Adolescent Development and Meaning Theory

Theories on adolescent development constitute a diverse landscape which apportions varying influence to the role of genetics, early childhood experiences, and environment. Developmental theories generally fall into three categories: nature theories, nurture theories, and interaction theories. Nature theories tend to highlight the impact of genetics and early childhood experiences, in contrast to nurture theories, which highlight the role of experience and learning as critical aspects of development. Interaction theorists, to varying degrees, suggest that there is an important exchange that occurs between genetics, thoughts, emotions, behavior, and environment that facilitates development. Diverse theories on development have implications for understanding successful adolescent development. Although some theorists place little emphasis on adolescent development (e.g., Freud's psychosexual stages), some developmental theorists discuss adolescence as a critical period within a developmental framework (e.g., Steinberg, 2005).

One such interaction theory of development is social-cognitive theory, which suggests that adolescent development consists of "transactional life events in which individuals play a role in shaping the course of their personal development" (Bandura, 2006, pp. 2). Development occurs when an individual experiences self-efficacy in order to manage life events as they arise. In contrast to stage theories of development, which suggest that certain developmental dilemmas arise for everyone in a preordained developmental sequence (e.g., Erikson's psychosocial stage model), social cognitive theorists suggest that there is flexibility to when and what one may encounter, but that there are general categories within which developmental competencies may

be achieved. According to social cognitive theorists, developmental competencies in adolescence cluster around the following areas: pubertal changes, academics, health promotion, affect regulation, sexuality, management of high-risk activities, political participation and social commitment. Social cognitive theorists propose that for adolescents, gaining competencies in these areas would depend on the reciprocal interplay of personal factors and diverse influences from the environment (Bandura, 2006). For example, an adolescent who experiences pubertal changes will not only experience this change on a physiological level, but is also impacted by social and environmental influences, such as familial reactions to pubertal changes. Although social influences and environmental factors may be highly variable, according to social cognitive theorists, underlying all developmental competencies in adolescence is self-efficacy, which refers to the extent to which individuals believe they can be successful in their endeavors (Pajares & Urdan, 2006). Self-efficacy, an internal attribute, provides a foundation with which adolescents can interact effectively with the external world. Largely, social-cognitive theories of development implicate the role of navigating one's internal world when external events arise, either by choice or by circumstances outside of the individual's control.

Within an agentic and interactional conceptualization of development, the extent to which one experiences meaning in life may be highly instrumental to adolescent development. Social cognitive theories of development highlight the connection between internal and external worlds and so, too, do theories of meaning in life. Although many theories of meaning exist, arguably the most parsimonious definition of meaning includes cognitive (i.e., comprehension) and motivational (i.e., purpose) components (Steger, Frazier, Oishi, & Kaler, 2006). Comprehension, the cognitive piece, refers to the extent to which one understands himself or herself. Purpose, the motivational piece, refers to the extent to which one utilizes cognitive conceptualizations of

herself to pursue activities important to the individual. While comprehension exists primarily through internal means, purpose relies on the external world—quite similar in theory to the interplay posed by social-cognitive theorists. There exists a feedback loop between comprehension and purpose, such that when one understands herself in a certain way, she pursues a purpose in line with what she knows about herself and gets feedback from the real world. The feedback can offer opportunities for comprehension of one's self to change, which in turn, may alter purpose as well.

An example may help illuminate the feedback loop between comprehension and purpose. Joe, a 16-year-old high school student may understand himself to be an intelligent and motivated person who wants to help others (the comprehension component). He decides he wants to become a medical doctor and volunteers at a local hospital (the purpose component). Soon after he begins volunteering, Joe notices that he often feels exhausted after working a few hours a week at the hospital. He also notices that he has a hard time sleeping when thinking about all the patients he has interacted with that day. When Joe thinks about it deeply, he realizes that being around sick people is draining for him. Joe understands more about himself (i.e., increased comprehension) from pursuing his purpose in the world (i.e., feedback from the real world), and subsequently decides to volunteer at a library instead, as he thinks that may be a better fit, which in turn, represents an altered purpose. As adolescents gain autonomy and independently engage with the external world, this process will likely facilitate meaning in life.

What, then, are the processes by which internal and external worlds of adolescents interact? Meaning-making, or the process by which people cognitively construct meaning, provides a bridge between internal and external worlds in order to foster development (Steger, Bundick, & Yeager, 2012). Some theorists suggest that increased cognitive capacities, which

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occur in adolescence, allow individuals to create coherent "life stories," which help adolescents to understand how an event may impact the self (e.g., Habermas & Bluck, 2000; McAdams, 2003). Two other vehicles have been suggested as processes by which meaning-making occurs in adolescence—lesson learning and gaining insight (McLean & Thorne, 2003). Lesson learning refers to knowledge gained from a specific event, which would influence behavior in a similar event. Gaining insight refers to a new understanding that can be generalized across situations to direct future behavior. Gaining insight has the potential to be more highly transformative due to the range of situations a new understanding can influence. For example, if an adolescent falls off of a bicycle, sustains an injury, and subsequently wears a helmet when riding a bicycle, then the adolescent has learned a lesson. If the same adolescent falls off a bicycle, sustains an injury, and engages in safety practices across domains (e.g., wears a helmet, wears a seatbelt, engages in safe driving practices), then the adolescent has gained insight.

Echoing the interplay between internal and external worlds seen in social-cognitive developmental theories, Kegan (1982) suggested that meaning in adolescence occurs primarily through the exchange between those aspects of life that are within one's control and those that have control over people. This impacts adolescents in the way they might think about themselves (intrapersonal), the way they might think and interact with others (interpersonal), and how they think overall (cognitive processes). Naturally occurring developmental processes may aid in adolescents' ability to make meaning. Adolescents' ability to interpret and internalize lessons from events may facilitate development. Although adolescence can often be improperly hallmarked as a time of turmoil and distress, most adolescents do not experience an inordinate amount of distress (Bandura, 1964; Petersen, 1988; Rutter, Graham, Chadwick, & Yule, 1976),

and experiencing meaning is likely a normative process for many adolescents (Steger, Bundick, & Yeager, 2012).

Meaning and Adolescent Well-Being

Beyond serving as an aid in development, meaning in life has emerged as a possible key factor in adolescent development and extends further into the realm of well-being (Schwartz, Côte, & Arnett, 2005; Burrow, O'Dell, & Hill, 2010). For adults, meaning has long been understood as a critical marker in psychological well-being, and more recently tied to physical health and vocational satisfaction as well. Meaning in life for adults is linked to positive affect (Hicks, Krull, & Del Gaiso, 2006), life satisfaction (Steger & Kashdan, 2007), engagement in health-promoting behaviors (Homan & Boyatzis, 2010), and presence of a calling (Duffy & Sedlacek, 2010). The emerging relationship between meaning in life and well-being for adolescents thus far parallels findings for adults. The literature suggests that meaning in adolescence is related to overall well-being, psychological well-being, physical health, and academic success.

Adolescent meaning may be critical to the adolescent's sense of wellbeing, a general sense that life is good (Burrow, O'Dell, & Hill, 2010). Specifically in adolescent populations, meaning was related to life satisfaction (Cotton Bronk, Lapsey, Talib, & Finch, 2009) and associated with daily well-being (Kiang & Fuligni, 2009). On the other hand, lower levels of meaning were associated with poorer quality of life (Brassai, Piko, & Steger, 2011).

Meaning has significant relationships to psychological functioning for adolescents as well. Presence of meaning was associated with higher self-esteem (Kiang & Fuligni, 2009) and resilience (Kim, Lee, Yu, Lee, Puig, 2005; Masten & Reed, 2002). In fact, in a study of Korean adolescents who were experiencing significant adverse circumstances, meaning, in part,

predicted their likelihood to be resilient (Kim, Lee, Yu, Lee, Puig, 2005). In contrast, individuals who were experiencing lower levels of meaning in life also reported poorer psychological functioning and increased psychosomatic symptoms (Brassai, Piko, & Steger, 2011). Meaning in life has been found to predict decreased suicidal ideation over an 8-week period of time (Kleiman & Beaver, 2013) and decreased lifetime odds of experiencing suicidal ideation and suicide attempts (Kleiman, Adams, Kashdan, & Riskind, 2013).

With regards to physical health correlates in an adolescent population, meaning has been associated with healthier lifestyle choices, such as increased fruit and vegetable intake and increased exercise (Brassai, Piko, & Steger, 2010). Adolescents who reported their lives as meaningful were less likely to engage in substance use and other risky behaviors (Aloise-Young, Hennigan, & Leong, 2001). Adolescents who reported lower levels of meaning in life reported increased levels of drug use, unsafe sex, less engagement in exercise, and less control over their diet (Brassai, Piko, & Steger, 2011).

In addition to well-being, psychological, and physical correlates, meaning has implications for academic and work functioning. Meaning for adolescents has been associated with good academic adjustment (Kiang & Fuligni, 2009) and adolescents who report purposeful work goals also report finding more meaning in their lives and in their schoolwork (Yeager & Bundick, 2009). On the contrary, adolescents who do not identify their lives as meaningful were less motivated by academic achievement (Damon, 2009) and more likely to engage in irresponsible academic/work behavior (Brassai, Piko, & Steger, 2012). Considering the evidence, it is not surprising that Emmons (1999) suggested that meaning influences adolescents' future aspirations and life trajectories.

Meaning and Bullying

The research evidence linking meaning to health, academics, and well-being is strong, making it an important target for helping adolescents flourish and develop. At the same time, the research on social exclusion and hostility make it clear that negative social events may potentially threaten adolescent meaning development. Social exclusion and rejection have been linked to decrements in meaning (Twenge, Catanese, & Baumeister, 2003). An experimental manipulation of social exclusion via "the cyberball game," (i.e., an internet game in which, if assigned to the ostracism condition, the person receives the "cyberball" twice in the beginning of play, but never again) has been shown to be causally linked to meaninglessness (Zadro, Boland, & Richardson, 2006). Conversely, people who report more positive social interactions, fewer negative social interactions, and more belongingness report higher levels of meaning (Steger & Kashdan, 2009). For adolescents, presence of meaning was inversely related to aggressive/antisocial behavior, which may suggest that individuals who have difficulty with connecting socially with others may experience decrements to meaning or that those who do not experience their lives as meaningful may engage in behaviors that could distance others (Brassai, Piko, & Steger, 2012).

Beyond unpleasant social encounters and inadvertent social ostracism, bullying is a negative social event that causes harm to a person either physically, psychologically, and/or socially. Often times when bullying occurs, a power differential is present, such that one person may be more powerful physically or with regards to status (Farrington, 1993). In a national bullying survey that measured both victimization and perpetration of bullying, incidence rates were high. Based on the prior two months, 20.8% of adolescents reported physical bullying, 53.6% of those surveyed reported verbal bullying, 51.4% reported social bullying, and 13.6% indicated that they had been bullied via electronic means (i.e., e-bullying) (Wang, Iannotti, &

Nansel, 2009). The effects of bullying have been studied both for bullies and their victims. On some occasions, victims of bullying, in turn, bully others, or vice versa, which is commonly known as "bully-victims," who experience their own unique set of negative effects (Nansel et al., 2004). First discussed will be risks to being bullied, then risks with engagement in bullying perpetration, and risks to being a bully-victim. Emerging literature on meaning and bullying will also be discussed.

Significant internalizing and externalizing risks can arise as a result of being the victim of bullying. Individuals who are bullied are more likely to experience symptoms of anxiety, panic disorder, agoraphobia, depression and are more likely to report elevated levels of social isolation and low self-esteem (Arsenault, Bowes, & Shakoor, 2010; Copeland, Wolke, Angold, & Costello, 2013; Egan & Perry, 1998; Forero, McLellan, Risso, & Bauman, 1999; Hawker & Boulton, 2000; Kaltiala-Heino, Rimpala, Ritanen, & Rimpala, 2000; Nansel et al.,2001; Karatzias, Power, & Swanson, 2002; Veenstra et al. 2005). Those who experience bullying as a child also show increased rates of psychotic symptoms later in life (Bebbington et al. 2004; Janssen et al. 2004; Kelleher et al. 2008; Schreier et al. 2009). Individuals who are bullied may exhibit concerning externalizing behaviors as well, such as engagement in self-harm behaviors, more suicidal ideation, increased likelihood to engage in violent behaviors, and may exhibit poorer social skills than those who are not bullied (Arsenault, Bowes, & Shakoor, 2010; Egan & Perry, 1998). Many of these effects can be long-lasting, persisting beyond the experience of bullying (Arsenault, Bowes, & Shakoor, 2010). The impact of bullying victimization can be significant across domains and threaten the wellbeing of an adolescent.

Less research to date has examined the effects of bullying perpetration, but the available literature would suggest that bullying perpetration can have negative effects on the perpetrator,

primarily externalizing behaviors. Whether the perpetrators actually demonstrate more externalizing behaviors or whether bullying perpetrator researchers are inclined towards studying internalizing risk for victims and externalizing risk for perpetrators is unclear. In one study that investigated bullying perpetration and mental health risks through semi-structured interview, bullying perpetration was only associated with development of antisocial personality disorder in adulthood, among many other disorders studied (Copeland, Wolke, Angold, & Costello, 2013). Although development of antisocial personality disorder has a significant internalizing component, diagnostic criteria contains several externalizing elements as well (e.g., development of a conduct disorder). In a separate study, bullying perpetration was associated with higher rates of later mental health and adjustment problems, although many of the mental health effects became non-significant when controlling for childhood risk factors (Ttofi, Farrington, Lösel, & Loeber, 2011). With regard to externalizing behaviors, individuals who perpetrated bullying were more likely to engage in delinquent behaviors and criminal offenses, even after controlling for other significant childhood risk factors (Farrington, Loeber, Stallings, & Ttofi, 2011; Ttofi, Farrington, Lösel, & Loeber, 2011). In a similar study, adolescents who perpetrated bullying were more likely to engage in theft, violent behavior, and binge drinking (Hemphil et al.,2012). Finally, in a study of suicide and bullying, individuals who reported both bullying others and other suicide-related behaviors at baseline had higher rates of suicidal ideation and were more functionally impaired at follow up than those students who reported suicide-related behaviors only (Klomek, et al., 2013). Although the external risks to bullying perpetration are apparent, less is known about internal effects or threats to wellbeing for bullying perpetrators.

Predominantly, bullying perpetration studies include "negative" outcome variables (e.g., delinquency, criminal behavior, drug abuse). However, emerging research suggests that not all

bullying perpetrators are created equal. In fact, in a cluster analysis study designed to assess happiness, social connectedness, and bullying, more bullying perpetrators reported feeling happy and socially connected (22.4%) than those reporting feeling unhappy and socially disconnected (17.3%) (Young et al., 2015). Emerging literature in this regard suggests that there may be more nuance to bullying perpetration, well-being, and social factors than has been previously studied.

Bully-victims are individuals who are involved in bullying both as bullies and victims. Bully-victims are at significant risk to well-being and demonstrate the highest level of adjustment problems among all children involved in bullying (Nansel et al. 2001; Juvonen et al. 2003; Veenstra et al. 2005; Arseneault et al. 2006). Bully-victims are at increased risk of young adult depression, panic disorder, agoraphobia for females, and suicidality for males (Copeland, Wolke, Angold, & Costello, 2013). Females who were involved in chronic bully-victim behavior exhibited the highest rates of self-harm in mid-adolescence, higher than both those who engaged in bullying or were bullied exclusively. In addition, chronic bully-victims had the highest delinquency scores in mid-adolescence and were more likely to engage in violent behaviors and carry weapons (Arsenault, Bowes, & Shakoor, 2010). It appears that involvement in both bullying perpetration and exposure to bullying as a victim may confer the most threat to mental health.

Considering the significant risks that exist with involvement in bullying at any level, lines of research address protective factors that may buffer the negative effects of bullying victimization and engagement in chronic bully-victim behavior. Not surprisingly, few articles to date focus on buffering the negative effects of perpetration after individuals start engaging in bullying behavior as the assumption may be that negative effects are deserved and/or may motivate change. Across all groups (bullying victims, bullying perpetrators, and bully-victims),

individuals who reported at least moderate peer social support also reported the least anxiety and depression (Holt & Espelage, 2007). Good social skills, having prosocial friends, and perceived caring by friends and nonparental adults also ameliorate risk (Borowsky, Taliaferro, & McMorris, 2012; Ttofi, Bowes, Farrington, & Losel, 2014; Vassallo, Edwards, Renda, & Olsson, 2014). Other factors include parental support (Wang, Iannotti, & Nansel, 2009), opportunities for prosocial involvement in family activities (Hemphill, Tollit, & Herrenkohl, 2014), parental discussions with their children, parents meeting child's friends (Shetgiri, Lin, & Flores, 2013), high parental monitoring (Vassallo, Edwards, Renda, & Olsson, 2014), a stable family environment, attachment to parents (Ttofi, Bowes, Farrington, & Losel, 2014), and parent connectedness (Borowsky, Taliaferro, & McMorris, 2012). These factors all appear to either reduce the likelihood that a child will bully another child or ameliorate the negative effects of bullying. Protective factors studied to date have primarily focused on social and familial relationships, and further investigation is warranted into internal mechanisms that may be protective of the negative effects of bullying.

More recently, meaning for adolescents has emerged as a factor of interest as related to bullying. In a study of bullying victimization, suicidal ideation, and meaning with a group of 6th through 12th graders, meaning was a mediator in the relationship between bullying victimization and suicidal ideation for girls (i.e., degradation in meaning helped to explain increased suicidal ideation when adolescents were bullied) and a moderator in the relationship between bullying victimization and suicidal ideation for boys (i.e., meaning was a protective factor when boys were bullied) (Henry et al., 2014). The question remains, however, about why and how these relationships exist between meaning and bullying victimization.

Theoretical models have been proposed to further explicate how meaning may be a mediator between bullying victimization and negative outcomes (e.g., suicidal ideation). These include: 1) bullying victimization as a degradation to social relationships and 2) bullying victimization as an impairment to development and well-being. Across multiple studies, relationships have been implicated as the most important aspect of what makes people's lives meaningful (Bar-Tur, Savaya, & Prager, 2001; Battista & Almond, 1973; Debats; 1999; Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011; Delle Fave, Pozzo, Bassi, & Cetin, 2013; DeVogler & Ebersole, 1980; Ebersole & Depaola, 1987; McCarthy, 1983; O'Connor and Chamberlain, 1996; Prager, 1996; Schnell, 2009; Schnell, 2010; Schnell & Becker, 2006; Steger et al., 2013; Taylor & Ebersole, 1993). In essence, relationships are seen as the foundation by which meaning can be experienced (e.g., Steger, 2009). Bullying, insofar as it detrimentally affects relationships and social competence (e.g., Nation, Vieno, Perkins, & Santinello, 2008) may degrade the foundation by which adolescents experience their lives as meaningful. It is not a surprise, then, that individuals who are bullied and report at least moderate social support are less likely to suffer the detrimental effects of being bullied (Holt & Espelage, 2007).

In an alternative theory, lack of meaning in a person's life may preclude normal adolescent development and impair overall well-being. As discussed previously, meaning can be defined as a dynamic interchange between comprehension and purpose (Steger, Frazier, Oishi, & Kaler, 2006), and social cognitive theorists of development would suggest that this interchange would need to be, in part, built on a foundation of self-efficacy (Bandura, 2006). Being bullied is associated with lowered self-efficacy and self-esteem and increased helplessness and hopelessness, which may impair the interchange between external experience and internal conceptualizations that promote meaning (Scholte, Engels, Overbeek, de Kemp, & Haselager,

2007; Siyahhan, Aricak, & Cayirdag-Acar, 2012; Sweeting, Young, West, & Der, 2006; Turner, Finkelhor, & Ormrod, 2010). Ultimately, damage between systems that confer external experience into internal conceptualizations of self may impair self-identity and break down systems that promote meaning.

Meaning may have stress-buffering properties for those who are victims of bullying, which may explain meaning as a moderator in the relationship between bullying victimization and negative outcomes. This could happen in two ways. First, individuals who already experience high levels of meaning may be less susceptible to threats to meaning from external events. Alternatively, individuals who are exposed to negative circumstances may be able to make meaning from the suffering (Park, 2010). Several other studies have implicated meaning as a stress-buffering variable, especially after stressful life events, such as medical diagnoses or bereavement (Boehmer, Luszczynska, & Schwarzer, 2007; Edmonds & Hooker, 1992; Gillies & Neimeyer, 2006; Steger, Frazier, & Zacchanini, 2008; Vickberg, Bovbjerg, DuHamel, Currie, & Redd, 2000).

Although meaning has implications for victims of bullying, no studies to date have explored the extent to which perpetrators of bullying experience their lives as meaningful, and there are mixed findings regarding bullying perpetration and correlates of meaning. Bullying others was associated with poorer psychosocial adjustment, which was a composite measure of problem behaviors, social/emotional well-being, and parental influences. In the same study, however, ability to make friends was positively related to bullying perpetration, which might suggest that degradation of relationships is not necessarily a plausible argument for meaning impairment among bullying perpetrators (Nansel et al., 2001). This is in line with the more recent study that suggests that many bullying perpetrators feel happy and socially connected

(Young et al., 2015). In another study, bullying perpetration was negatively correlated with overall self-efficacy, which could generally suggest that bullying perpetration may impair normal development and interfere with systems that bolster meaning, although the research is too young to generate any definitive conclusions (Kokkinos & Kipritsi, 2012). It is possible, though, that meaning threats may actually lead to bullying perpetration. In one study, when meaning was threatened, people were more likely to treat someone as an enemy, which has been shown to temporarily restore a sense of meaning (Sullivan, Landau, & Rothschild, 2010). There is no one clear pattern regarding this research, but overall, these studies may suggest that bullying perpetration could provide the temporal experience of meaning via social avenues, either by making friends or making enemies, but individuals who are perpetrators may not be developing competencies (e.g., self-efficacy) that would theoretically sustain meaning.

Although the literature has examined meaning as a mediator and moderator, no study to date has studied the direct relationship between bullying perpetration and bullying victimization and meaning as the outcome of interest. Thus, it is pertinent to address gaps in the literature to explore if bullying victimization or bullying perpetration has a direct impact on meaning for adolescents.

Meaning and Acceptance and Commitment Therapy (ACT)

If meaning is important to development and overall well-being and has been implicated as both a mediator and a moderator for negative outcomes, future research needs to investigate processes that might contribute to adolescents' experience of meaning. Acceptance and Commitment theory has important theoretical foundations that align with the two-part comprehension and purpose model of meaning. Thus, Acceptance and Commitment Therapy (ACT) will be presented as an important related framework and two important factors that are

highly related to ACT, self-compassion and mindfulness, will be presented as relevant to the experience of meaning.

Acceptance and Commitment Therapy (ACT) has been proposed as a highly related conceptual framework to meaning theory (Steger, Sheline, Merriman, & Kashdan, 2013). ACT and meaning theory share their roots in recognizing the fundamental basis of human striving and suffering. Unlike many other positive psychological variables that look to maximize the good and ignore the bad, meaning theory recognizes that a meaningful life may be qualitatively different than a pleasant life, a life that "feels good" (Seligman, Steen, Park, & Peterson, 2005). ACT, too, operates from a viewpoint that recognizes human suffering as inevitable. ACT and meaning theory both espouse an understanding that change comes not from feeling good, but from engaging with the range of human experiences—and using that information to understand oneself, one's values, and the opportunities one pursues. The second wave of positive psychology, which accounts for negative experiences in addition to positive experiences, is said to resemble the third wave of behavioral therapy, which focuses on acceptance of life's ups and downs, rather than a focus on change exclusively (Steger, Sheline, Merriman, & Kashdan, 2013).

Although the research on ACT alone is vast and expansive and has garnered strong empirical support for therapeutic purposes, the theoretical literature on the relationship between ACT and meaning in life is scarce, and empirical literature is largely nonexistent. Testing relevant ACT variables may deepen an understanding of ACT's links to meaning theory and provide an empirical basis for intervention.

From a theoretical standpoint, the comprehension component of meaning theory fits well with the ACT notion of mindfulness, which promotes an open, non-defensive contact with the present (Steger, Sheline, Merriman, & Kashdan, 2013). Insofar as people focus their attention on

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the past and into the future, people lose the opportunity to contact the present moment, filled with both positive and negative experiences. Avoidance of current, relevant material renders people largely incapable of experiencing meaning, as their systems with which to comprehend themselves are out of touch with the reality of the present moment, rendering "comprehension systems inaccurate, fragile, and constantly in need of protection" (Steger, Sheline, Merriman, & Kashdan, 2013, p. 5). Connection with the present moment may significantly contribute to a person's accurate interpretation of the self, vital to a robust meaning system.

The empirical literature on meaning and mindfulness has significantly lagged behind theoretical models. Thus far, there have been mixed findings and an overall dearth of literature to formulate any definitive conclusions. In a study of mindfulness-based stress reduction (MBSR) training for cancer patients, there were no established changes in meaning in life (Kieviet-Stijnen, Visser, Garssen, & Hudig, 2008). In two other studies where MBSR training was implemented for medical populations, significant increases in a sense of coherence, which includes a meaning component, were found (Matousek & Dobkin, 2010; Weissbecker et al., 2002). These findings should be interpreted with caution with regards to the present study, however, as meaning within the sense of coherence construct refers to cognitive evaluation of a challenging situation and investment in coping, a significant departure from the meaning construct according to Steger and colleagues (2006). In a study of post-traumatic distress, individuals who reported experiencing post-traumatic distress and reported less reliance on experiential avoidance (i.e., were more aware and engaged with present experience), reported more post-traumatic growth and meaning in life as compared to their more avoidant counterparts (Kashdan & Kane, 2011). Attending to one's present experience, whether positive or negative, may provide more opportunities for individuals to experience their lives as meaningful.

Unlike the first and second waves of behavioral therapies, ACT theorists propose that psychological distress can be alleviated by changing the person's relationship with their problems, which includes a non-judgmental or compassionate attitude (MacBeth & Gumley, 2012). Self-compassion has been defined as "being kind and understanding toward oneself in instances of pain or failure rather than being harshly self-critical; perceiving one's experiences as part of the larger human experience rather than seeing them as isolating; and holding painful thoughts and feelings in mindful awareness rather than over-identifying with them" (Neff, 2003, p. 223). Self-compassion also integrates the notion that failure and inadequacy are normal human experiences that can be understood with a non-judgmental attitude and integrated as part of the larger human experience (Neff, 2003). This connects closely with ACT insofar as ACT promotes tenets of psychological flexibility, acceptance, and engagement with negative emotions, rather than avoidance (Hayes & Strohsal, 2004). Self-compassion has been proposed as a significant and valuable mechanism of change within the ACT theory (Baer, 2010).

Individuals who practice self-compassion are more likely to have healthier psychological functioning and decreased likelihood to experience anxiety (Neff, Kirkpatrick, & Rude, 2007). Self-compassion appears particularly relevant when people are faced with adversity or difficult life circumstances. In experimental manipulations that introduced adversity to a laboratory setting, self-compassion attenuated the negative effects of the adverse events, a distinct and stronger effect than self-esteem (Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Neff, Kirkpatrick, & Rude, 2007). These findings have real-world implications as well. Self-compassion was found to mediate the relationship between childhood trauma severity and emotion dysregulation (Vettese, Dyer, Li, & Wekerle, 2011). In another study, emotional abuse was predictive of reduced self-compassion for a sample of children involved in the welfare

system and low self-compassion, in turn, predicted psychological distress, problem alcohol use, and suicide attempts (Tanaka, Wekerle, Schmuck, Paglia-Boak, & MAP Research Team, 2011). It is no surprise then that self-criticism has been linked to depression (e.g. Glassman, Weierich, Hooley, Deliberto, & Nock, 2007; Luyten et al., 2007).

Self-compassion and meaning both have their roots, in part, in human suffering, recognizing the eventuality of difficult life circumstances and adversity. Whereas meaning describes cognitive (i.e., understanding of self) and motivational (i.e., pursuing activities) components (Steger, Frazier, Oishi, & Kaler, 2006), self-compassion is an emotional stance in how a person relates to the self in times of suffering (Neff, Hsieh, & Dejitterat, 2005). Self-compassion may serve as an emotional bridge by which people can make sense of their experiences, both positive and negative, through a non-judgmental lens and make decisions about action from a place of security, rather than distress. Self-compassion, although an affective concept, is positively related to cognitive flexibility and negatively related to rumination (Martin, Staggers, & Anderson, 2011; Neff, 2003). Self-compassion encourages gentle efforts to change things that might be harmful towards the self or others, a process heavily reflected in the comprehension and purpose facets of meaning (Martin, Staggers, & Anderson, 2011).

Although in its research infancy, one study has looked directly at the relationship between self-compassion and meaning. In a study of adults over the age of 65, self-compassion was significantly positively correlated with meaning (Phillips & Ferguson, 2013). Although the literature would suggest that the connection between meaning and self-compassion is promising, it has only been tested thus far in one highly specialized population (i.e., older adults).

Current Study and Hypotheses

Thus far, meaning has been implicated as a key factor in development and well-being in adolescence, and yet, very few research studies to date have experienced how this process happens. Much is still unknown regarding the experience of meaning in adolescents, namely what factors may obstruct or aid in meaning for a unique time of development. The previous outline of research pertaining to meaning in life, bullying perpetration, bullying victimization, self-compassion, and mindfulness indicates that examining the potential relationships between these variables is a promising field of inquiry.

The current study will examine the following research questions: 1) whether meaning is related to bullying perpetration and/or bullying victimization, 2) whether meaning is related to self-compassion and/or mindfulness.

Hypothesis 1: As reviewed above, theory and research suggest that bullying perpetration may be related to lower levels of meaning in life. Although to date untested, theory would suggest that bullying perpetration may degrade factors that foster meaning, such as self-efficacy (Kokkinos & Kipritsi, 2012) and psychosocial adjustment (Nansel et al., 2001). It is also hypothesized that bullying perpetration will, in part, predict lowered levels of meaning.

Hypothesis 2: As reviewed above, both theory and research suggest that bullying victimization should be related to lower levels of meaning in life. Being a victim of bullying may damage key resources for the development of meaning, namely the establishment of self-efficacy (e.g., Siyahhan, Aricak, & Cayirdag-Acar, 2012) and of supportive social relationships (Nansel et al.,2001). It is also hypothesized that bullying victimization will, in part, predict lowered levels of meaning.

Hypothesis 3: As reviewed above, theory suggests that mindfulness should be related to higher levels of meaning in life. Theoretically, mindfulness allows for more opportunity for individuals to have a coherent meaning system via increased comprehension (Steger, Sheline, Merriman, & Kashdan, 2013) and emerging findings from the empirical literature on mindfulness-based stress reduction programs suggest that variables related to meaning (i.e., sense of coherence) might be strengthened via mindfulness training (Matousek & Dobkin, 2010). It is also hypothesized that mindfulness will, in part, predict higher levels of meaning.

Hypothesis 4: As reviewed above, theory and research suggests that self-compassion should be related to higher levels of meaning in life. Theoretically, self-compassion may provide an enhanced system by which people can integrate comprehension and purpose (Martin, Staggers, & Anderson, 2011). Research suggests that self-compassion and meaning are positively correlated in older populations (Phillips & Ferguson, 2013). It is also hypothesized that self-compassion will, in part, predict higher levels of meaning.

CHAPTER II: METHODS

Participants

The sample for the present study was drawn from 186 students from two middle schools in Colorado. Students who did not complete at least 75% of the questions in the study were not included, leading to a final sample of 145 students. Participants were offered a $5 Target gift card for participation.

Participants in the sample included (49.7%) males and (50.3%) females aged 12-15. More than half of the students sampled reported receiving free/reduced lunch, 75 (51.7%), and the most predominant ethnicities in the sample included White, 52 students (36.1%), Latino/Hispanic, 40 students (33.3%), and Black/African American, 25 students (17.4%). Comprehensive demographic variables are presented in Table 1.

Measures

Meaning. The Meaning in Life Questionnaire, Short Form (MLQ-SF) (Steger, Frazier, Oishi, & Kaler, 2006) is a 3-item measure that assesses presence of meaning in life. Sample items include, "My life has a clear sense of purpose," and "I have a clear sense of what makes my life meaningful." Typically, all items are measured on a 7 point Likert scale ranging from 1 (Absolutely Untrue) to 7 (Absolutely True), with a range of responses from 3-21. Due to changes in the Likert scale associated with the current study, items were measured on a 7 point Likert scale ranging from 0 (Absolutely False) to 6 (Absolutely True), with a range of responses from 0-18.

The 3-item short form of the Meaning in Life Questionnaire has demonstrated sound psychometric properties (e.g., Kobau, Sniezek, Zack, Lucas, & Burns, 2010); Steger & Samman,

2012). Internal consistency of the MLQ-SF have been listed at .88 and .89, respectively.

Previously, an interclass correlation coefficient (.71) indicated a high degree of coherence

between items. Cronbach's alpha with the current sample was .94 for the MLQ-SF, indicating

acceptable reliability for research purposes.

Support for the validity of the MLQ-SF is found in its relationship to conceptually related

constructs. The MLQ-SF has correlated in the expected direction with many wellbeing

indicators, including psychological need satisfaction (i.e., competence, autonomy, relatedness)

and life satisfaction (Kobau, Sniezek, Zack, Lucas, & Burns, 2010; Steger & Samman, 2012)

Bullying. The Adolescent Peer Relations Instrument (APRI) is a 36 item measure of both

bullying and victimization in the past year (Parada, 2000). There are 18 items to assess bullying

behavior (e.g., "I crashed into a student on purpose as they walked by") and 18 corresponding

items to assess the extent to which students were bulled (e.g., "Students crashed into me on

purpose as they walked by") All items are measured on a 7 point Likert scale ranging from 0

(Never) to 6 (Every day). Responses closer to 0 represent small amounts of bullying or being

bullied, whereas scores closer to 6 represented frequent amounts of bullying or being bullied.

Scores range from 0-108 on the Bullying Victimization measure and from 0-108 on the Bullying

Perpetration measure. Although six sub-scales are available with this instrument (Bully Physical,

Bully Verbal, Bully Social, Target Physical, Target Verbal, Target Social), due to low

endorsement rates of bullying and the current research questions, analyses did not delineate sub-

scales, but rather calculated one overall score to assess bullying victimization and bullying

perpetration, which is an acceptable use of this instrument (Parada, 2000). In the current study,

Cronbach's alpha was .92 for the 18 items assessing bullying perpetration and .96 for the 18

items assessing bullying victimization.

APRI has strong psychometric properties (e.g., Finder, Yeung, Craven, Parada & Newey, 2008; Marsh et al., 2011). Establishment of reliability and validity estimates were established through exploratory structural equation modeling (ESEM). Goodness of fit of the model proposed was acceptable (CFI=.923, TLI=.916, RMSEA=.019). Validity was established through examining the APRI in relation to a variety of psychosocial constructs related to bullying, which included endorsing pro-bullying behaviors, using avoidance coping strategies, having an external locus of control, experiencing difficulties in controlling anger, being depressed, and having negative self-concepts (Marsh et al., 2011).

Mindfulness. The Mindfulness Awareness Scale-Adolescent Version (MAAS-A) (Brown, West, Loverich, & Biegel, 2011) is a 14-item scale designed to measure mindfulness, or attention to the present moment. All items are measured on a 6-point Likert scale ranging from Almost Never (0) to Almost Always (6). Items are reverse-scored such that a score closer to 0 represents more mindfulness. Sample items include, "I rush through activities without being really attentive to them," and "I snack without being aware that I'm eating." The MAAS-A has been shown to have strong psychometric properties in normative and psychiatric populations (Brown, West, Loverich, & Biegel, 2011).

In normative samples, exploratory factor analysis revealed a strong single-factor solution and Cronbach's alpha of .82 and .84 in a second sample. Test-retest reliability was assessed at 3-4 weeks was high and internal consistency was acceptably high at both time 1 and time 2 (alpha=.85 and .88). Validity was established through examination of the MAAS-A in relation to other relevant personality, affective, and wellbeing variables. The MAAS-A was positively correlated with agreeableness and conscientiousness and related to higher life satisfaction, happiness, positive affect, and wellness and negatively correlated with negative affect (Brown,

West, Loverich, & Biegel, 2011). In the current study, Cronbach's alpha revealed a .91 for the 14 items of the MAAS-A.

Self-Compassion. The Self-Compassion Scale (Neff, 2003) is a 26-item scale developed to measure self-compassion. Item responses range from 0 (Almost Never) to 4 (Almost Always), with scores ranging from 0-104. Responses are both positively worded (e.g., "I'm kind to myself when I'm having difficulties or feeling bad.") and negatively worded (i.e., reverse scored), (e.g., "I'm disapproving and judgmental about my own shortcomings and weaknesses" or "When times are really difficult, I tend to be tough on myself").

The Self-Compassion Scale has demonstrated strong psychometric properties (Neff, 2003). Internal consistency for the 26-item Self-Compassion Scale has been demonstrated at .92. To determine validity, the 26-tem Self-Compassion Scale, correlation coefficients of related constructs were calculated. The Self-Compassion scale was significantly negatively correlated with the Self-Criticism Scale, positively correlated with the Social Connectedness Scale and all three facets of the Trait-Meta Mood Scale (i.e., attention, clarity, and repair) (Neff, 2003). In the current study, Cronbach's alpha was .92 for the 26 items of the Self Compassion Scale.

Procedure

Data for this study were collected at two schools. In one school, a mindfulness intervention had taken place (i.e., the urban school). Data were analyzed to ensure that the schools were not significantly different on the variable of interest, meaning in life, which is discussed below in the results section. Participants completed a 208-item survey, during the regular school day, which was completed in students' classrooms, the cafeteria, or the library. Survey duration was approximately 75 min and was administered verbally by trained data collectors, with a second data collector available to answer individual student questions about

comprehension. All procedures were approved by the Colorado State University Institutional

Review Board and the policies and procedures set forth by the individual schools.

CHAPTER III: RESULTS

Table 1 illustrates demographic variables that were assessed in the current study. A proper assessment of the relationship among bullying victimization, bullying perpetration, self-compassion, mindfulness, and meaning requires tests to determine if the adjustment of demographic variables is necessary. First, due to the inclusion of two separate school samples, one from a rural area and one from an urban area where an intervention had already taken place, it is necessary to determine if school exerts an impact on meaning. In addition, for adolescents, studies indicate that women may experience higher levels of meaning than men and that older adolescents may experience lower levels of meaning, although both of the observed effects were quite small (Steger & Samann, 2011). In addition, academic achievement is related to higher levels of meaning (Al-Yagon & Margalit, 2006; Kiang & Fuligni, 2009). There have been marginally significant effects found for differences in meaning for ethnicities (Kiang & Fuligni, 2009). Concerning socioeconomic status, there has been no literature to date that looks at this specifically with adolescents, but there is empirical literature to suggest that low socioeconomic status can attenuate meaning in adulthood (e.g., Ryff, Keyes, & Hughes, 2003). First, bivariate correlations between school, gender, age, grades, ethnicity, free lunch, and meaning revealed that grades were the only variable significantly related to meaning, $r=.31$, $p<.01$.

A second step was implemented in order to determine whether the following demographic variables: school, gender, age, grades, ethnicity, and free lunch status (school, gender, age, grades, ethnicity, and free lunch) should be controlled for in the comparisons. A multiple regression analysis was conducted to determine whether any of these variables were significant predictors of the current study's dependent variable (meaning). Multiple regression

analyses demonstrated that grades (t=3.26, p<.05) was the only significant predictor of presence of meaning in life, such that higher self-reported grades predicted higher levels of meaning, which is consistent with the previous literature (e.g., Al-Yagon & Margalit, 2006; Kiang & Fuligni, 2009). Table 2 illustrates the covariate effects on meaning.

Next, bivariate correlations were calculated among variables of interest. Table 3 illustrates bivariate correlations between meaning, bullying perpetration, bullying victimization, mindfulness, and self-compassion. Significant findings are discussed. Meaning was inversely related to bullying perpetration, r= -.18, p<.05 and not related to bullying victimization to a significant degree. Meaning was also positively, significantly correlated with both self-compassion, r=.34, p<.01, and mindfulness, r=.27, p<.01. Bullying victimization was positively correlated with bullying perpetration, r=.29, p<.01, and negatively correlated with self-compassion, -.27, p<.01, and mindfulness r=-.32, p<.01. Bullying perpetration was negatively related to mindfulness, r=-.34, p<.01.

To determine the unique impact of each of the groupings of variables, control variables, variables hypothesized to degrade meaning (i.e., bullying perpetration and bullying victimization), and variables hypothesized to bolster meaning (i.e., self-compassion and mindfulness), a 3-stage hierarchical linear regression was performed. Hierarchical linear regression can be utilized when the data is grouped in some way (Huta, 2014). Table 4 illustrates a hierarchical linear regression, including grades as a covariate and variables of interest in predicting the dependent variable, presence of meaning in life. Prior to conducting a hierarchical linear regression, several assumptions about the data must be met. To test for violations of normality, each of the predictor variables included in the regression analyses were examined separately. The distribution of scores on all four of the independent variables (bullying

perpetration, bullying victimization, self-compassion, mindfulness) and on the dependent

variable, which was a measure of meaning in life (meaning) were inspected for evidence of skew

and kurtosis. All variables demonstrated suitable normality except for bullying victimization,

skewness of 1.91(SE=.20) and kurtosis of 3.33(SE=.40) and bullying perpetration, skewness of

1.90(SE=.20) and kurtosis of 4.10(SE=.40), In order to correct for this assumptive violation,

bullying victimization and bullying perpetration were transformed using a logarithm equation

before it was entered into the regression analyses. This type of transformation procedure is often

recommended for the statistical investigation of positively skewed data (Cohen, Cohen, West &

Aiken, 2003; Tabachnik & Fidel, 2007). After log transformation, both bullying victimization

and bullying perpetration fell into the acceptable range of skew and kurtosis with bullying

victimization at a skewness of .38(SE=.20) and kurtosis of -.88(SE=.40) and bullying

perpetration at a skewness of .20(SE=.20) and kurtosis of -.65(.40).

Multiple regression also assumes the presence of linearity and homogeneity of variance

across levels of the predictor variables (homoscedasticity). To check for violations of these

assumptions, scatter plots were generated using the predicted values for all possible pairs of

independent and dependent variables. Upon visual inspection of the plots, it was verified that

linearity and homoscedasticity were maintained.

Multiple regression techniques are particularly sensitive to outliers (very high or very low

scores) making it critical to check for the presence of extreme scores that may exert undue

influence on the relationship between the independent and dependent variables. Outliers were

located through a variety of methods. Graphic depictions of the data were generated using box-

plot graphs, which are helpful in the visual detection of extreme scores. Additionally, analyses of

studentized residuals, which provide a statistical representation of each case's residual error and

resulting influence on the overall model, were used to supplement visual scanning of the data (Cook, 1982). Cases were identified as potentially problematic when resulting in a studentized residual exceeding +/- 2 (Belsey et al., 1980). No significant outliers were identified in this process.

A three stage hierarchical multiple regression was conducted with meaning in life as the dependent variable. Grades (i.e., the covariate) were entered at stage one, bullying victimization and bullying perpetration (i.e., factors hypothesized to predict lowered levels of meaning) were entered at stage two, and self-compassion and mindfulness (i.e., factors hypothesized to predict higher levels of meaning) were entered at stage three. Table 4 represents the three-stage hierarchical linear regression.

Due to previous analyses that were conducted in order to determine if demographic variables had a significant impact on meaning, grades were the only significant predictor of meaning in life. When entered into stage 1 of the hierarchical regression model, grades did significantly contribute to the regression model, $F=14.75$, $p<.01$. Grades alone accounted for 9% of the variance in meaning in life.

In order to test the hypotheses that being a bully victim or bully perpetrator might predict lower levels of meaning in life, multiple regression analyses were performed. In stage two, bullying victimization and bullying perpetration were entered. Inclusion of bullying victimization and bullying perpetration did contribute significantly to the regression model, $F=6.01$, $p<.05$. However, neither bullying victimization nor bullying perpetration alone when controlling for all other variables had a significant impact on meaning. When bullying victimization and bullying perpetration were entered, the covariate (i.e., grades) plus bullying victimization and bullying perpetration accounted for 10% of the variance in meaning.

In order to test the hypotheses that self-compassion and mindfulness may predict meaning, self-compassion and mindfulness were entered at stage three. Multiple regression analyses revealed that inclusion of self-compassion and mindfulness did contribute significantly to the regression model, $F=7.25$, $p<.01$. Taken together, stage three (all variables included) accounted for 18% of the variance in meaning. Although mindfulness did not predict meaning when controlling for all other variables, self-compassion independently predicted meaning in stage three of the hierarchical multiple regression. Findings would suggest that holding all other factors constant, a one unit increase in self-compassion would be associated with a .26 unit increase in meaning.

CHAPTER IV: DISCUSSION

Although emerging research is beginning to discuss meaning in life as a protective factor for younger populations, including middle and high school aged individuals, more research is necessary to understand both processes that may degrade and enhance meaning for adolescents. The primary purpose of this research was to assess whether experiencing bullying victimization or engaging in bullying perpetration was related to degradation in meaning. Beyond examining the links between bullying victimization, bullying perpetration and meaning, understanding processes that may enhance the experience of a meaningful life were also examined. Results of this study contribute to a growing body of literature that may explicate and clearly identify barriers and facilitators to meaning, which has the potential to inform continued exploratory work, longitudinal studies, and future intervention.

The data from this study yielded several significant findings that are consistent with, and expand upon available literature that has explored relationships in meaning in life for adolescents. The first finding does not specifically map onto a hypothesis described above, but is note-worthy. Grades, as a proxy measure for academic success, were positively related to meaning and fit with a prediction model that suggested that grades, in part, are predictive of meaning. This finding aligns with available literature that suggests that academic success is highly related to the experience of meaning for adolescents (e.g., Kiang & Fuligni, 2009). Implications of this finding suggest that creating opportunities for academic success for adolescents may provide opportunities for meaning or, alternatively, that a strong meaning system may facilitate academic success. Future research could include academic interventions

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that measure not only academic measures, but measures of wellbeing, such as meaning to assess student potential and progress.

Theory and research suggest that becoming a victim of bullying can have significant negative effects on adolescents, including decrements to individual resources, social relationships, and wellbeing. It was hypothesized that becoming a victim of bullying may threaten meaning as well, insofar as it can potentially impair social relationships, social development (Arsenault, Bowes, & Shakoor, 2010), and internal resources that aid in the development of meaning (i.e., self-efficacy and self-esteem) (Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007; Siyahhan, Aricak, & Cayirdag-Acar, 2012; Sweeting, Young, West, & Der, 2006; Turner, Finkelhor, & Ormrod, 2010). In the current study, meaning was examined in relation to bullying victimization. Although meaning was hypothesized to be inversely related to bullying victimization, this effect was not observed (i.e., bullying victimization and meaning were inversely related, but not to a significant degree). This is a somewhat unexpected finding, in light of a study that bullying victimization led to degradation of meaning for girls (Henry et al., 2014). It may be that when faced with adversity in the form of bullying, there are sub-groups that have protective factors that buffer the proposed negative effects of bullying, subgroups that cope better because they already experience meaning in their lives (i.e., have a strong "foundation of meaning") or experience higher levels of meaning in response to a stressor as has been exhibited in some populations when faced with a stressful life event (Steger, Frazier, & Zacchanini, 2008). Investigation of these potential mediational and moderational factors are not plausible in this study but may provide a framework for future investigation.

It was hypothesized that meaning would be inversely related to bullying perpetration for many of the same reasons that bullying victimization would degrade meaning. Bullying

perpetration is associated with social distress (Nansel et al., 2001), increased risk of mental health concerns (Copeland, Wolke, Angold, & Costello, 2013), and lowered self-efficacy (Kokkinos & Kipritsi, 2012). No research to date has explored this relationship, and the current study would suggest that the hypothesis is supported, such that bullying perpetration and meaning are inversely related to a significant degree. Recent research would suggest that bullies may be happy (Young et al., 2015), but it appears that they may be less likely to experience their lives as meaningful. This is an important contribution to the literature as it a) suggests that bullying perpetrators may experience less meaning, and b) in light of recent literature, continues to conceptually differentiate between "a happy life" and "a meaningful life" (Seligman, Steen, Park, & Peterson, 2005). Part of the hypothesis, however was not supported. Engaging in perpetration of bullying did not fit with a predictive model (i.e., bullying perpetration did not predict lowered levels of meaning), which suggests further inquiry. In theory, there are variables that have been omitted from the current analysis that may increase the likelihood of bullying perpetration and decrease the likelihood that an individual experiences meaning in their lives, such as significant mental health concerns or lack of family support.

Facets that contribute to a meaningful life for adolescents may be as diverse as the experience of an adolescent, varied with regards to biological attributes, range of experiences, and intensity of experiences. Instead of casting a wide net in this study, however, it was decided to look at only two highly conceptually related variables to meaning. Acceptance and Commitment Therapy (ACT) has many commonalities with meaning theory (Steger, Sheline, Merriman, & Kashdan, 2013) and mindfulness and self-compassion are two key components of ACT. As hypothesized, both mindfulness and self-compassion were significantly, positively correlated with meaning. For mindfulness, this aligns with the current research that suggests

mindfulness is related to meaning (e.g., Matousek & Dobkin, 2010) and extends the literature in illustrating this connection with a previously unstudied population. Mindfulness, however, was not predictive of increased meaning for the current population. Further investigation is warranted to include variables that influence both mindfulness and meaning. For self-compassion, this relationship both aligns with current research that suggests that self-compassion and meaning are related (e.g., Phillips & Ferguson, 2013), and also extends this relationship to adolescents, whereas previously this relationship was only studied with older adults. When controlling for all other variables, self-compassion independently predicted presence of meaning and accounted for a significant proportion of variance in meaning for adolescents in this study. In line with the theoretical presupposition that meaning includes a cognitive, comprehension piece and a motivational, purpose piece, it may be that individuals who are able to attend to, accept, and affectively embrace their experience, including negative experiences, may exhibit flexibility in the feedback loop between comprehension and purpose that allows for increased meaning.

Limitations

While results of this study are promising as first steps towards identifying factors that enhance and detract from meaning, there are several limitations. First, as this design is cross-sectional, there is no way to draw conclusions about the causality of the variables. In addition, due to the complexity of certain survey items and the length of the administration of the survey (> 1 hour), there may have difficulties for middle school students to complete the survey, which may account for the fairly high proportion of missing data. In addition, the relationships analyzed were post-test data in which one school had received a mindfulness intervention. This, in turn, may have artificially or actually inflated the extent to which students reported mindfulness in the

survey. In addition, surveys across the two schools were administered at different time points, which may have impacted the findings.

Implications and Future Directions

Even in light of these limitations, the results of this study have implications both for future exploratory study and for intervention work. Although the current study provided emerging information on the relationship between bullying victimization, bullying perpetration, and meaning, it will become important to study mediating and moderating relationships that impacts these relationships. Since bullying victimization and meaning were not significantly related at a correlational level, it can be reasonably assumed that some adolescents may have protective factors that buffer the risk of meaning degradation. Future research may investigate initial levels of meaning in a longitudinal design as a buffer, coping strategies, family support, and parental attachment, all of which have theoretical reasons for why they may be able to buffer the risk of other negative outcomes for bullying victims. Future research avenues for bullying perpetration may include studies that provide a clearer temporal understanding of the relationship between bullying perpetration and meaning and include other variables that were not assessed in this study. For example, future studies could investigate whether lower levels of meaning predict increased involvement in bullying perpetration or if meaning interventions decreases the likelihood of adolescent intentions to bully. Furthermore, parental involvement, family attachment, and mental health screenings may be important to investigate as potential causal mechanisms for both bullying perpetration and meaning.

Although this line of research is in its infancy, there are promising directions with which this study could have implications for intervention. This study presents a malleable construct that could impact meaning. In two separate studies, interventions that have been designed to bolster

self-compassion have been successful in doing so (Smeets, Neff, Alberts, & Peters, 2014; Neff & Germer, 2013). Whereas meaning currently exists as a construct that has not been successfully manipulated directly for adolescents, self-compassion interventions may provide an in road to meaning, which as described above, may confer significant psychological, social, and physical health benefit.

The main questions in this study are related to youth development and wellbeing. Are there common experiences that detract from experiencing meaning in an adolescent's life? Are there ways in which developing competencies, instead of or in addition to, remediation, can protect against risk and improve overall functioning? How best would students benefit from positive programming in certain target areas? Are there areas that would provide more benefit, and if so, in what way? Although still too early to decipher these large, empirical questions, it can be reasonably assumed that helping youth to develop meaning in their lives is developmentally appropriate and valuable in many ways. Results from this study present exciting new opportunities to continue to explore relationships to meaning and pilot interventions that seek to enhance meaning in adolescence.

TABLES

Table 1

Demographic Characteristics.

	Frequency (N)	Percentage
Geographic Location		
Urban	87	60.0
Rural	58	40.0
Gender		
Male	72	49.7
Female	73	50.3
Free/Reduced Lunch		
Yes	75	51.7
No/I don't know	70	48.3
Age		
12	23	15.9
13	65	43.4
14	57	39.3
15	2	1.4
Grades		
Mostly A's	61	42.1
Mostly B's	64	44.1
Mostly C's	18	12.4
Mostly D's	2	1.4
Ethnicity		
White	52	36.1
Latino/Hispanic	48	33.3
Black/African-American	25	17.4
Asian	1	.7
Mixed/Bi-Racial	14	9.7
Other	4	2.8

Table 2

Multiple regression analyses to determine potential covariate effects on meaning in life.

	B	t	p
School	.114	.89	>.05
Gender	-.025	-.31	>.05
Free Lunch	-.13	-1.14	>.05
Age	.04	.44	>.05
Grades	.334	3.68	<.05
Ethnicity	.08	.78	>.05

**Significant at the .01 level.

Table 3

Variable Means, Standard Deviations, and Intercorrelations Among Key Variables

Variables	1	2	3	4	5
1. Meaning	1				
2. Bullying Victimization	-.10	1			
3. Bullying Perpetration	-.18*	.29**	1		
4. Self-Compassion	.34**	-.27**	-.15	1	
5. Mindfulness	.27**	-.32**	-.34**	.35**	1
M	11.4	12.5	10.7	51.7	53.2
SD	5.3	16.4	11.9	19.9	13.0

Note: Bullying victimization and bullying perpetration were log-transformed for normality. Means and standard deviations are presented in their original scale. Mindfulness was reverse-coded before analyzed.

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Meaning in Life

Variable	Model 1			Model 2			Model 3		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Grades	2.23	.58	.31**	2.19	.58	.30**	1.88	.56	.26**
Bullying Victimization				-.36	.47	-.06	.20	.47	.04
Bullying Perpetration				-.79	.57	-.12	-.44	.57	-.06
Self-Compassion							.-71	.02	.26*
Mindfulness							.06	.04	.14
Adjusted R^2		.09			.10			.18	
F for change in R^2		14.75**			6.10*			7.25**	

Note: Bullying Victimization and bullying perpetration were log-transformed for normality.

*$p < .05$

**p $< .01$

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