TRIANGULATING YOUTH PURPOSE ACROSS THREE MEASURES

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ABSTRACT OF THE THESIS

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Positive purpose has been linked to increased resilience in the face of adversity. Although quantitative and qualitative measures of purpose have traditionally been utilized separately, recent literature points to the need for more comprehensive assessment by integrating these methodologies. Therefore, the present study uses a mixed-methods approach to "triangulate" the construct of youth purpose, and to validate a new qualitative measure of purpose. The sample included students from two urban middle schools who completed a quantitative self-report measure of purpose, and a Purpose Essay – a qualitative measure asking students to define their purpose, and to describe any engagement they had in their purpose. Homeroom teachers also completed a 3-item measure of their perception of students' purpose. Cluster analysis was used to incorporate thematic codes derived from the Purpose Essays to create "profiles" of students including all three purpose measures. Three cluster patterns were found for both schools in the analysis – fully developed purpose, beyond-the-self without engagement, and self-oriented life goal – additionally, these clusters did not vary across student groups (i.e., grade level, gender, ethnicity). The triangulation of purpose assessments added to the prediction of a general measure of mental health, but not specifically depression or

anxiety. Future research would examine a subset of students' purpose essays in more

detail using qualitative coding analyses for further exploration of content and structure.

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Introduction

The study of purpose has its roots in several disciplines, including Western philosophy, religion and spirituality, and more recently, modern-day psychology. Historically, the meaning of life and the purpose of human existence were subjects of inquiry and debate for many philosophers and theologians. The term *telos* was used by Greek philosophers such as Aristotle to describe the ultimate end, purpose, or goal of a human's life (Cahill, 1981; Grosch, 2000). *Teleology,* derived from the root word of *telos*, assumes that every being and natural entity has a final cause and end purpose (Rosenblueth, Wiener, & Bigelow, 1943).

The tradition of *existentialism* – pioneered by nineteenth century philosophers such as Kierkegaard and Nietzsche, posited that to exist is to be confronted with the question of meaning and purpose, and that humans define their own meaning in life (Crowell, 2004; Crumbaugh & Maholick, 1964; Frankl, 1958). In the realm of theology, one Judeo-Christian theological perspective holds that the final *telos* of human life – one of ultimate flourishing – is oriented toward God, who is the *summum bonum* (the highest good; Cahill, 1981). A Jewish perspective of human responsibility and purpose is linked to the concept of *tikkun olam*, or "repairing the world" – including alleviating problems such as poverty, racism, oppression, and improving the environment (Friedman & Klein, 2010).

However, an individual's *telos*, or purpose, has been regarded as non-quantifiable and transcendent, meant to be primarily located in the realm of philosophy, religion, and spirituality (Cahill, 1981; Damon, Menon, & Cotton Bronk, 2003). In fact, the exploration of such higher-order belief systems has been viewed by some – particularly

in the behaviorist and psychoanalytic schools - as "ethereal," "soft-headed" and "sentimental" and has not been seriously considered in the discipline of psychology until more recent times (Damon et al., 2003). In the twentieth century, the construct of purpose was brought into the forefront of psychological literature after the publication of Victor Frankl's memoir, *Man's Search for Meaning* (Frankl, 1985). In his narrative, Frankl recounts the horrendous conditions of the concentration camps during the Holocaust, as well as the psychological conditions of the inmates, and argues that in such conditions – and in other areas of life – having a sense of one's purpose in life can be essential to sustaining psychological well-being in the face of adversity.

In his memoir, Frankl often quotes Nietzche's aphorism, "He who has a *why* to live for can bear with almost any *how*" (p. 76). He observed that those who seemed to have a strong purpose – who were conscious of a personal responsibility to others or a cause beyond one's immediate surroundings or circumstances—tended to demonstrate an "inner hold" on their moral and spiritual selves that allowed them to be more resilient, even in the horrific conditions of the concentration camp. On the other hand, he recounted other instances of prisoners who were unable to derive any meaning or purpose for their imprisonment eventually relinquished hope of survival and deteriorated psychologically within the camps. This led Frankl to found the therapeutic field of logotherapy, or *existential analysis*, with its focus on supporting the exploration of purpose in life and the meaning of human existence (Frankl, 1958).

In modern times, the academic study of purpose continues to bridge existential philosophy and scientific psychology, and noble purpose has been considered by some as a moral virtue that drives an individual's behavior toward an ultimate non-destructive

goal that serves the greater good for human dignity and rights (Damon et al., 2003; Han, 2015; Hatchimonji, Linsky, & Elias, 2017). Having a sense of purpose and meaning have also been thought of as necessary constituents to achieving *eudaimonia*, or flourishing – first introduced in Aristotelian ethics and since re-emerged as one of the ideals of human life according to modern-day positive psychology (Kristjánsson, 2017; Woolfolk & Wasserman, 2005).

Although in the literature, Frankl and many other researchers have used the terms "purpose" and "meaning" interchangeably, subsequent definitions of purpose have distinguished the construct conceptually from meaning in life, in that purpose is defined by the forward-looking intention to contribute to matters beyond the self (Blau, Goldberg, & Benolol, 2018; Damon et al., 2003). Damon and colleagues (2003) define purpose as "a stable and generalized intention to accomplish a goal that is meaningful to the self and of consequence to the world beyond the self" (p. 121). More recently, using Damon and colleagues' (2003) definition, purpose has been further conceptualized along 3 dimensions: (1) purpose *intention* – which includes the content of purpose (what a person focuses on) – as well as the personal strivings or goals that drive action, (2) purpose *engagement* – or one's actions that one takes towards one's purpose, and the behavioral manifestations of that purpose, and (3) prosocial reasoning or *beyond the self* – tying the intention and engagement to consequences that affect others, and emphasizing contributions that can be made to society and one's wider community (Moran, 2009). Each of these three dimensions can be scaled and have been dichotomized in past research into low and high categories, which can be combined to create forms of purposefulness (Moran, 2009; see Table 1). These include a fully developed *purpose*

(high intention, engagement, and prosocial reasoning), *self-oriented life goal* (high intention and engagement; low prosocial reasoning), *beyond-the-self dream* (high intention and prosocial reasoning; low engagement), and *self-oriented dream* (high intention; low engagement and prosocial reasoning).

Three additional categories – *dabbling* (low intention; high engagement and prosocial reasoning)*, vision* (low intention and engagement; high prosocial reasoning)*,* and *drifting* (low intention and prosocial reasoning; high or low engagement) characterize situations in which individuals do not have an agentic view of self with the capacity to be deliberate about his or her actions (i.e., low levels of purpose intention), and are recategorized along with *self-oriented dream*, as "non-purpose" in a simpler conceptualization of the construct (Moran, 2009; see Figure 1).

Quantitative scales and research on purpose in life

Since Frankl's time, there has been a diversity of approaches to the research of purpose as a psychological construct. Several quantitative scales have been developed to operationalize the construct of purpose, including the Purpose in Life (PIL) scale (Crumbaugh & Maholick, 1964), intended to measure an individual's sense of purpose and meaning in life in domains such as work, religion, life goals, and self-concept. Another quantitative measure, the Purpose in Life Scale, part of Ryff's measure of psychological well-being (Ryff, 1989, 1995), was derived from theories about positive psychological health and lifespan development, with higher scores on the scale indicating a greater sense of goal-directedness and a meaningful outlook on life. With regard to youth purpose, the 20-item Youth Purpose scale (Bundick, et al., 2006) has been developed to measure two dimensions of purpose in youth – exploration and

commitment. A subsequent measure of youth purpose, the 12-item Claremont Purpose Scale (CPS), assesses three dimensions of the purpose construct, including goal orientation, personal meaningfulness, and a beyond-the-self motivation (Bronk, Riches, & Mangan, 2018).

Using such measures of purpose, research has supported the idea that having a healthy sense of purpose in life is a key component of thriving. In early adolescence and young adulthood, purpose in life has been found to be correlated with positive psychological outcomes such as subjective well-being, positive affect, self-efficacy, and life satisfaction – while a lack of purpose has been related to increased levels of psychological distress and poorer mental health (Bronk, 2012; DeWitz, Woolsey, & Walsh, 2009). Especially critical in adolescence – a time of hormonal-behavioral and psycho-social changes that affect youth's lifestyles and health behaviors – developing a healthy sense of purpose can be a protective factor against common psychological problems for youth, including depression and substance use (Abramoski, Pierce, Hauk, & Stoddard, 2018; Brassai, Piko and Steger, 2011). More purposeful youth have also been found to be more likely to express gratitude than their non-purposeful peers, and express greater hope about the future despite economic challenges (Bronk, Leontopoulou, & McConchie, 2018; Damon et al., 2003; Hill, Sumner, & Burrow, 2014; Malin, 2018; Malin et al., 2017).

In a hierarchical cluster analysis, Burrow, O'Dell and Hill (2010) categorized youth purpose into four profiles based on their levels of commitment to, and exploration of, their purpose according to the Youth Purpose Scale (Bundick et al., 2006): *achieved* (high commitment and high exploration), *foreclosed* (above average levels of

commitment, and low levels of exploration), *uncommitted* (low levels of commitment and high levels of exploration), and *diffused* (below average levels of both commitment and exploration). The authors also found a close relationship between identity and purpose development among adolescents; however, they did not find any statistically significant differences with respect to gender, year in school, school type or ethnicity between the purpose profiles.

Qualitative research on youth purpose

To better understand the content and themes of what youth express as their purpose in life, and to facilitate theory development in the field (Bronk, 2012), the construct of purpose has also been studied using qualitative methods. For example, when studying the written journals of mid-20th Century youth in Switzerland as part of a larger study, Inhelder and Piaget (1958) found that in several instances, youth in their early adolescent years reflected on and expressed beyond-the-self life purposes without prompting, often in the form of lofty aspirations or other grandiose and flamboyant manifestations (Inhelder & Piaget, 1958). Other qualitative studies have used semi-structured interview protocols – such as the Revised Youth Purpose Interview Tool – to explore how individuals expressed their life purpose, the reasons behind their purpose and how they were currently engaged in their purpose (Andrews, Bundick, Jones, Bronk, Mariano, & Damon, 2006). One study also utilized the Youth Purpose Interview Codebook (Malin et al., 2008) to code for (1) important driving goals, (2) beyond-the-self motivation for important goals, and (3) action taken to accomplish important goals, and found that categories of youth purpose were largely in the following domains of life: family, community, and future career goals (Malin, Liauw, & Damon, 2017).

Recent research also has demonstrated that both converging and divergent themes of purpose emerge when qualitatively studying ethnic minorities and youth of different cultural groups. For example, Balthip and colleagues found that when interviewing an urban sample of Thai adolescents about their purpose, themes that emerged included traditional aims and values (i.e., responsibility to support their family, taking on jobs that benefitted society, etc.; Balthip, McSherry, Petchruschatachart, Piriyakoontorn, & Liamputtong, 2017). In another study on youth purpose among African American girls between the ages of 11-16, researchers found that purpose can be reliably assessed among three dimensions – accomplishments (i.e., an intention or goal), engagement (i.e., current and future action), and reasons (i.e., self-directed or prosocial; Mariano, Going, Schrock, & Sweeting, 2011). These dimensions are related to those proposed by Damon and colleagues (2003), in that accomplishment is aligned with purpose intention, engagement is aligned with current action, and reasons is aligned with beyond-the-self.

In addition to semi-structured interviews, the construct of purpose has also been assessed by the use of essays. Van Dyke and Elias (2008) studied students' essays about the ideals and values that guide their lives as part of the Laws of Life program, and developed a rubric assessing the content, voice, and word choice of these essays. Using this rubric, the authors found a positive relationship between purpose and well-being. Recent research also has used Purpose Essays written in a school setting to examine students' purpose classification, engagement and commitment, and found significant relationships between purpose engagement in students' essays and commitment in the self-report purpose scale, but no significant relationship between purpose commitment and purpose classification (Nayman et al., 2019**).**

Need for mixed-methods research and methodological triangulation

In recent studies of youth purpose development, with their divergent methodologies, one common challenge is the lack of consensus and absence of standardization on how to best measure youth purpose (Linver et al., 2018). Many in the field point to the need for better integration of qualitative and quantitative methods – as the relatively more objective quantitative measures can complement qualitative measures assessing personal attitudes, interpretations and narratives (Creswell & Clark, 2011; Urban, Burgermaster, Archibald, & Byrne, 2015). In addition, researchers have noted the need to move beyond traditional reliance on self-reports in the measurement of purpose, and to consider additional data derived from multiple informants, to avoid artifacts in measurement such as ceiling effects resulting from social desirability bias (Burrow, Hill, & Sumner, 2018).

Therefore, researchers have more recently been turning to mixed-methods research to address the need for a more comprehensive picture of youth purpose. Bronk, Leontopoulou, and McConchie (2018) studied Greek older teens and young adults (mean age = 21.55) during a major economic recession using both quantitative and qualitative measures of purpose in a sequential explanatory mixed methods design, in which qualitative interviews were subsequently conducted to better explain findings from quantitative surveys. Quantitative findings, which suggested that having a higher sense of purpose enabled individuals to have a more positive view of the future, were illustrated and elaborated upon by qualitative interview data. For example, students who reported an above-average sense of purpose on quantitative purpose surveys also reported a sense of efficacy in dealing with their futures during the semi-structured interviews and discussed

needing to try harder or to fight for what they want in their lives, while a common theme in the qualitative interviews of students who scored below average in purpose on the quantitative survey measures was futility, in that they tended to report not being sure of what they could do to change their current situations.

Linver and colleagues also used a mixed-methods approach to examine how multiple dimensions of purpose (i.e., self-report, teachers' ratings, qualitative interviews asking students to connect purpose to their life goals and activities) are linked to each other, examining *consistencies* and *disconnects* between the measures. They found that students' self-report purpose ratings were generally consistent with teacher-report purpose ratings as well as with the students' interview codes, especially at the highest and lowest teacher rankings of purpose, but that teachers' purpose ratings were generally not aligned with student interview codes. The researchers also found that youth's self-reported confidence was related to any disconnects found between students' self-reported purpose and teachers' reports of purpose, such that when teachers rated students' levels of purpose higher than students' purpose, students also reported lower levels of confidence. On the other hand, when students rated their levels of purpose via self-report higher than teachers' reports of their purpose, the students reported higher levels of confidence (Linver et al., 2018).

Purpose in relation to other outcomes

By definition, engagement of purpose requires forming future-oriented intentions, following through with these intentions in the face of obstacles, and navigating relationships in the social world; accomplishing this requires the development of a set of complex skills over time (Mariano & Savage, 2009). Development of purpose in an

individual – whether positive or negative – has been previously stated to be controlled by a continuous feedback loop of goal-directed action (Rosenblueth et al., 1943). When an action is successfully achieved, one becomes closer to the goal and in turn, another step closer to one's purpose; this is then repeated in an iterative process. Additionally, the actualization of positive purpose also has been conceptualized as necessitating parallel development of a constellation of additional character virtues, including future-mindedness, diligence, and generosity (Hatchimonji et al., 2017).

Future-mindedness is defined as a student's ability to think about and plan for the future, with a hopeful, planful and aspirational orientation (Hatchimonji et al., 2017). The construct of purpose is by nature future-oriented, which distinguishes it from the related construct of meaning, as well as more short-term and low-level aims that may constitute one's daily activities (Damon et al., 2003; Machell, Disabato, & Kashdan, 2016). For youth to identify an intention towards a positive purpose, it is critical that they are able to envision a future where they are able to engage in their stated intentions, and to fulfill and achieve the possibilities created by their own potential (Hatchimonji et al., 2017; Machell et al., 2016). Indeed, past research with youth has found positive relationships between purpose in life and envisioning positive events and positive future states (Mariano & Savage, 2009). Positive purpose allows youth to perceive a positive future with a more idealized version of themselves (e.g., pursuing higher education, being a positive role model to others, or contributing to society in a beneficial way), which, in turn, encourages behavior to help them pursue this goal (Machell et al., 2016). For youth from a disadvantaged context, however, the impact of societal messages about the likelihood of their attaining a positive purpose cannot be discounted.

Diligence, conceptualized as a combination of reliability and perseverance of effort in the face of difficulties, is another character virtue that is important for purpose development (Hatchimonji et al., 2017). Past research has linked positive purpose to increased persistence on otherwise tedious tasks in academic settings, by allowing students to engage in more effective academic self-regulation, both immediately, and over time (Yeager et al., 2014). Previous conceptualizations of purpose have also argued that youth's ability to set goals and engage in intentional self-regulation (ISR) to delay gratification and achieve these goals is an important precursor to purpose development (Linver et al., 2018). For example, in an academic setting, perseverance of effort has been found to be positively associated with students' academic performance and involvement in extracurricular activities (Duckworth & Quinn, 2009). The development of these self-regulation strategies, which contribute to a student's ability to persevere in the face of obstacles, is important to help students to continue engaging in behaviors that will allow them to achieve their intended purposes, particularly when obstacles are encountered. Past research has also found that successful attainment of long-term goals is related to sustained and focus application of efforts over time (Duckworth, Peterson, Matthews, & Kelly, 2007), and it may be that there is greater incentive to persevere in difficult tasks when they are connected to a higher-level purpose. As noted for attainment of positive purpose, discouraging messages disproportionately communicated to minority students can tax their sustenance of diligence in the face of obstacles.

The virtue of generosity involves the capacity to share resources and put others' needs before one's own, which is an essential antecedent for prosocial behavior and civic engagement (Hatchimonji et al., 2017). Past research has found that positive purpose –

and civic and community goals in particular – are significant positive predictors of generosity, and that generosity is more associated with realized beyond-the-self purpose than other forms of purpose (i.e., unformed, idealized, or self-focused purpose; Mariano & Savage, 2009). Purpose has been found to significantly predict altruism, a construct related to generosity, in youth across different socio-economic contexts, and has been theorized to build upon the virtue of future-mindedness to instill a sense of hope necessary for youth to envision and act upon other-oriented goals (Machell et al., 2016).

Although not many studies have directly examined the relationship between purpose and self-efficacy in youth, De Witz et al., (2009) found a positive relationship between the two constructs of purpose and self-efficacy in college students. In the current study, as students develop future-mindedness, diligence, and generosity, and engage in behaviors that help to realize their purpose, it is conceptualized that students will increase in their self-efficacy, which in turn, will lead to greater involvement in activities that support their beyond-the-self purpose, and improvements on indicators of mental health, which can result in a positive feedback loop. On the other hand, students with lower self-efficacy may also be less likely to initiate engagement and persist in activities that are in line with their purpose (see Figure 2).

Present Study

Considering that past research has not yet used a mixed-methods approach for the triangulation of purpose within an ethnic minority youth sample in the US, and that the use of Purpose Essays as a qualitative measure (Nayman et al., 2019) has not been validated by quantitative measures, the current study sought to examine how Purpose Essays relate to self-report and teacher-report measures of purpose for the purposes of

validation, and to examine if any differences between the measures could be explained by socio-demographic variables, mental health, and the presence of additional character virtues (Burrow et al., 2018).

The study used a concurrent mixed-method approach to explore the convergent validity between different measures of purpose in a sample of students from two urban middle schools, as well as the relationship between these measures and other socio-demographic and mental-health related variables. The study triangulated the construct of purpose across two quantitative and one qualitative measure: self-report, teacher-report, and purpose essays. The three measures were used to gain a more comprehensive assessment of students' purpose, with the self-report survey reflecting an awareness of intended purpose, the teacher report measure reflecting an outsider's perspective of the students' purpose (or "purpose in action"), and the Purpose Essay more holistically assessing content, consistency, and extent of elaboration of the students' purpose. In this study, it was expected that the construct of purpose would be captured more completely by the intersection between these three measures than by any one or two of them.

Research Questions and Hypotheses

The current study sought to answer the following questions:

(1) How are the quantitative (self-report and teacher-report) measures of purpose related to each other, in the sample as a whole, and within socio-demographic groups?

(2) How do the students "cluster together" on each of the three measures of purpose, and how do these clusters based on purpose vary across socio-demographic variables, levels of mental health, and other character virtues?

Based on differences in measurement between these three indices, "profiles" of purpose can be created using cluster analysis. It is predicted that these clusters will not vary as a function of socio-demographic variables, consistent with the findings of previous studies of youth purpose (e.g., Burrow et al., 2010); however, these clusters are predicted to vary as a function of mental health, and other character virtues. Specifically, it is hypothesized that in relation to different virtues, students with above average scores on the self-report measure of purpose would also report higher levels of these virtues (future-mindedness, perseverance of effort, and generosity), and that self-reported levels of self-efficacy will be lower in a group of students where self-reported levels of purpose are low and teacher-reported levels of purpose are high – this prediction was based upon a similar finding by Linver and colleagues (2018) albeit using a measure of self-reported confidence instead of self-efficacy.

(3) Does examining multiple measures of purpose better statistically predict mental health than incorporating a single measure of purpose?

This research question addresses the value of a triangulation of perspectives on purpose as an incremental predictor of mental health outcomes.

Methods

Data for the present study were collected from students who underwent a social-emotional and character development (SECD) curriculum, developed and implemented during the 2015-2016 academic year in collaboration with a large urban district in the mid-Atlantic region of the United States. The current data were collected from the first year of the intervention as part of a three-year cycle, and therefore the students in this study only had initial exposure to the SECD curriculum. The curriculum included material on socio-emotional skills, noble purpose, and other character virtues (Hatchimonji et al., 2017).

Sample

The current study examined students who from two public urban middle schools within the mid-Atlantic school district in Spring of 2016. The initial sample consisted of 293 students, but 32 students that had plagiarized essays (which were the same or overly similar to that of other students), or failed to follow the purpose essay prompt (i.e., essays failed to provide personal insight into their purpose) were subsequently removed from all analyses. Of the 32 students that were excluded, 19 were from PS 17 and 13 were from PS 27; 8 of these students were 6th graders, 5 of these students were 7th graders, and 19 of these students were 8th graders. The final sample includes 261 students (47.5% female; mean age = 12.95). Although the schools consisted of grade levels between pre-K and 8th grade, the sample used for this study consisted only of 6th-8th graders. A majority of the students in the sample (77.0%) indicated that they qualified for free or reduced lunch. The samples from the two schools were relatively consistent across gender and free or reduced lunch status. However, the sample from School A was 10.69% Asian, 22.14%

Black, 45.80% Hispanic, and 21.37% White, while the sample from School B was

13.08% Asian, 7.69% Black, 68.46% Hispanic, and 10.77% White. The sample from

School A consisted of mostly 7th (45.04%) and 8th graders (42.75%) with a minority of 6th

graders (12.21%), while the sample from School B consisted of mostly 6th graders

(53.08%) with fewer 7th (20.0%) and 8th graders (26.92%). Students in this sample wrote

a purpose essay as part of an in-class assignment, in response to a prompt administered

by their Language Arts teachers in March 2016, and shortly thereafter completed self-

report surveys measuring purpose, character strengths, and other social and emotional

skills (Hatchimonji et al., 2017; Nayman et al., 2019). Students were not aware of any

connection between the essay assignment and the completion of the survey.

Measures

    Self-report purpose. The five-item self-report measure of purpose in this study

was derived from two existing purpose scales for adolescents – two items from the

Lippman et al. (2014) *Purpose Scale,* and three items from the *Revised Youth Purpose

Survey* (Bundick et al., 2008). The items were on a five-point Likert-type scale ranging

from "Disagree A LOT!" to "Agree A LOT!" (See Table 2). The combined measure

demonstrated good reliability in the current sample (α=.86).

    Teacher-report of purpose. The teacher-report measure of purpose consisted of

three items administered in Spring of 2016: "During the past 4 weeks, how often did the

student.... (1)-Act as if he/she has a sense of purpose in life? (2)-Appear aimless or seem

to lack direction? (3)-Appear to be motivated by a negative purpose?" These items were

also on a 5-point Likert-type scale, from "never" to "very frequently" (See Table 3).

These items were derived from the Purpose Rubric, a teacher report of pupil purpose

(Van Dyke & Elias, 2008). The items on this measure demonstrated adequate reliability (α=.77).

Purpose essays. In addition to collecting quantitative measures of youth purpose, all students in this study were asked to complete a Purpose Essay in March of 2016, which serves as the qualitative measure of purpose in this study. Students were asked to define purpose, to discuss their motivation for purpose if they feel like they have one, and how they might be engaging in their purpose. The prompt encourages students to write essays in a five-paragraph format, with an introduction, three body paragraphs, and a conclusion, as required by the school district's language arts curriculum regarding essay writing.

Future-mindedness. To measure students' expectations and aspirations for their future, six items were adapted from Ou and Reynolds' (2008) study on educational attainment in Chicago Schools (see Table 4). These questions have been used in research with urban middle school youth (α = .89) (Bell et al., 2017). The measure had good reliability (α=.84) in the current sample.

Diligence. Diligence was measured using three items from the Short Grit Scale (Grit-S, Duckworth & Quinn, 2009), and two items from the Diligence Scale for Teenagers (Lippman et al., 2014; see Table 5). The Grit-S is an 8-item measure designed to assess trait-level perseverance and passion for long-term goals, and includes two subscales: (1) perseverance of effort and (2) consistency of interest. For the purposes of this study, only items pertaining to the perseverance of effort subscale will be analyzed (items 5, 7 and 8), due to the poor reliability of the consistency of effort dimension in this sample in another recent study (Hatchimonji, 2016). Items are rated using a 5-point scale

ranging from "very much like me" to "not like me at all." The Diligence Scale for

Teenagers is a seven-item self-report scale developed by the Flourishing Children

Project. It assesses diligence and reliability in adolescents with questions about the

frequency of diligent behaviors. Response options are a 5-item Likert scale, ranging from

"none of the time" to "all of the time." In a national sample (ages 12-17), the scale had

good reliability (alpha = .79) and concurrent validity (Lippman et al., 2014). In the

present study, the combined measure had good reliability (α=.83).

Generosity. Generosity, defined as voluntarily giving time, attention, or material

goods, and placing the well-being of others above one's own well-being was measured

using four items from the Flourishing Children Project's Generosity/Helping Family and

Friends scale for adolescents (Lippman et al., 2014; see Table 6). Lippman et al. found

that in an adolescent sample, the Generosity/Helping Family and Friends scale had an

alpha of .80. In the current sample, the measure demonstrated good reliability (α=.85).

Global Self-Efficacy. Perceived self-efficacy was measured using the General

Perceived Self-Efficacy Scale (GSE: Schwarzer & Jerusalem, 1995). The GSE includes

10 items and is often used to assess global self-efficacy across a wide variety of

situations. A typical item is, "Thanks to my resourcefulness, I can handle unforeseen

situations." Response options are: not at all true (1), hardly true (2), moderately true (3),

and exactly true (4), yielding a total score between 10 and 40 (see Table 7). High scores

indicate higher levels of self-efficacy. It has demonstrated high retest-reliability of r= .67,

stability of r= .75 after one year and internal consistencies are typically between

alpha= .75 and .91. For the students in this sample, this measure demonstrated good

reliability (α=.87).

Mental Health. Mental health was measured by two measures: (1) an adaptation of the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998), and (2) select items from the *Pediatric Quality of Life Scale* (PedsQL; Varni, Seid & Rode, 1998). The ten items on the SDQ used for this study were reduced from the original 25-item scale after considering participant feedback, and results from inter-item and item-total correlations, factor analyses, and reliability analyses. Items on the SDQ are rated on a 3-point scale ("Not True," "Somewhat True," or "Certainly True") and includes selected items from three of the original five subscales: emotional problems (4 items), conduct problems (3 items), and peer problems (3 items; see Table 8) Higher scores on the SDQ indicate higher self-reported levels of symptom severity and poorer mental health. For the sample in this study, the eleven items on the SDQ measure had adequate reliability (α=.72).

The PedsQL is designed as a general indicator of pediatric quality of life – five selected items on the scale used in this study were chosen as a proxy measure of depression. Items on the PedsQL used for this study were measured on a 5-point scale ("Never," "Almost Never," "Sometimes," "Often," and "Almost Always") and included items such as "I have low energy," "I hurt or ache," and "It is hard for me to do chores around the house" (see Table 9). In the current sample, the five items from the PedsQL measure also demonstrated adequate reliability (α=.77).

Procedure

The current study followed a mixed-methods *convergent* design, in which quantitative data (i.e., self-report surveys) and qualitative data (i.e., Purpose Essays) were collected concurrently (in Spring 2016). *Embedding* was used as the methodological

integration approach in this study, which involved linking qualitative data and quantitative data at multiple points through a combination of *merging* (bringing the two databases together for analysis and comparison) and *building* (generating the initial a priori codes for the Purpose Essays from quantitative Purpose dimensions in the survey); Fetters, Curry & Creswell, 2013).

After data collection, qualitative and quantitative data were integrated at the level of analysis through directed content analysis (Fetters et al., 2013; Hsieh & Shannon, 2005), in which Purpose Essays of all of the students in this sample are transformed into quantitative data through noting the presence of identified domains in the essays through codes.

The *a priori* codebook for the coding in this study was developed based on the content of the essays, findings from previous literature, and empirically validated coding manuals such as the Youth Purpose Project: Interview Coding Process for Forms of Purpose Determination (Abramoski et al., 2018; Malin et al., 2008; See Appendix B). A team of independent coders were trained until they reach inter-coder reliability (>80% agreement) to read each of the essays and determine the level and category of purpose in each essay.

The codes from the transformed qualitative data were integrated from quantitative survey data to be incorporated into a cluster analysis, aiming to identify profiles of students who differ on each of the three indices of purpose (i.e., student self-report, teacher-report, and Purpose Essays). Canonical correlations were also conducted between the items on the students' self-report and teacher-report surveys, to determine which dimensions from the survey items were to be incorporated into the cluster analysis.

Data Analytic Plan

Methodological triangulation is a mixed-methods approach combining qualitative and quantitative methods of data analysis to ensure that a research problem is addressed using the most comprehensive approach (Morse, 1991). The intention of this method is to bring together the strengths of each methodological approach for the sake of corroboration and validation of findings (Creswell & Plano Clark, 2011). Specifically, the current study incorporated the simultaneous, or concurrent triangulation design, in which the qualitative and quantitative data are collected concurrently, analyzed separately, and then are mixed during interpretation (Campbell & Fiske, 1959; Morse, 1991).

The quantitative measures of purpose – self-report and teacher-report survey items, were analyzed alongside the qualitative measure of purpose in this study – the Purpose Essays – and they were compared with each other to better understand how the measures are related, and to examine how the Purpose Essay (a relatively new measure of purpose) compared with previously validated and established measures in a convergent, concurrent design (Fetters et al., 2013).

Analyses with only Quantitative Measures

Descriptive Analyses. Initially, descriptive statistics of students' self-reported purpose, self-efficacy, future-mindedness, perseverance of effort, and generosity were examined, in addition to scores on teacher-reported measures of purpose and the dimensions of purpose on the Purpose Essays, including gender, grade-level, school-level, and ethnicity differences.

Canonical Correlation Analysis. To address the first research question of how the quantitative (self-report and teacher-report) measures of purpose related to each other,

in the sample as a whole, and within socio-demographic groups, canonical correlations were conducted to identify the multivariate relationships between teacher-report and student self-report items in the total sample, as well as within different socio-demographic groups within the sample. Canonical correlation analysis (CCA) is a technique that examines both the univariate and multivariate relationships between two sets of variables, in a way that reduces risk of Type I error by allowing simultaneous comparisons to be made, while taking into account the multiple dimensions of each variable (Sherry & Henson, 2005).

Analyses with both Quantitative and Qualitative Measures

Cluster Analysis. To address the second research question, and to examine how the various indices of purpose converge within individual students, several two-step cluster analyses were conducted to yield profiles according to the three purpose indicators, after eliminating redundant items as determined by the canonical correlations. A cluster analysis is a person-centered classification strategy that has been used in past analyses to create profiles of adolescents based on their levels of purpose (Burrow et al., 2010).

Specifically, after the purpose essays were coded, each individual score for the three exploratory dimensions of purpose (intention, engagement, or beyond the self) were added together to create a total purpose score for each student's essay, with a maximum score of 3 (reflecting the presence of 0, 1, 2, or all three dimensions of purpose). The total purpose score from the essays, self-report scale, and select items from teacher-report scale (based on results from the canonical correlation) were then used to determine cluster membership for each of the students in the sample. These clusters were then

compared with clusters created from other studies looking at different dimensions of purpose albeit not necessarily across methods, and evaluated on their levels of socio-demographic variables, mental health, and other character virtues (i.e., future-mindedness, perseverance of effort, and generosity).

Multiple Regression. To address the third research question, and to examine whether each additional measure of purpose better statistically predicts the "goal" of improved mental health than incorporating less measures of purpose, several multiple regression analyses were used with varying degrees of purpose variables as predictors, and mental health variables as outcome measures.

Results

Reliability of Coding

Coders consisted of a team of four research assistants, who were initially trained until their codes were in at least 80% agreement with the author as the master coder, and with each other.

Reliability of codes for this study were then calculated based upon percentage agreement of the coding between the four research assistants, who were each assigned approximately 50% of the essays. The first set of research assistants achieved an initial percentage agreement of 87.04 % on total codes, while the second set of research assistants achieved an initial percentage agreement of 86.01% on total codes. Any discrepancies in codes then resulted in a discussion meeting in which both coders met with the author, until consensus was reached between all members for every code.

Descriptive analyses

A series of independent t-tests comparing students from School PS 17 and PS 27 demonstrated that during Spring 2016, students from PS 27 indicated significantly higher self-efficacy scores (M = 3.40, SD = 0.68) than students from PS 17 (M = 3.02, SD = 0.48; t (213.795) = -5.115, p<.001). There were no significant differences between two schools in other primary outcomes (ps >.05).

In the total sample, independent t-tests between males and females revealed that teachers rated the purpose of female students (M = 3.03, SD = 0.89) significantly higher than that of males (M = 2.69, SD = 0.96, t(259) = -3.00, p < 0.005. On self-report measures, female students also had significantly higher diligence scores (M = 4.07, SD = 0.68) than that of males (M = 3.83, SD = 0.77; t (209) = -2.16, p<.05). Additionally, female students had significantly higher generosity self-report scores (M = 3.54, SD =

0.98) than males (M = 3.25, SD = 0.97; t (255) = -2.31, p<.05; see Table 10). There were no significant differences between genders in other outcomes (ps >.05). Because of concern about skew in the data, nonparametric analyses were also run, and these analyses yielded the same findings.

In the total sample, one-way ANOVAs were conducted for primary outcomes by grade level (6th, 7th, or 8th grade). In the sample, one-way ANOVAs revealed that for the mean teacher-report purpose score, there was a significant difference between grade levels, F (2, 258) = 4.49, p < 0.05. Post-hoc comparisons using Tukey's HSD showed 6th graders (M = 2.61, SD = 0.91) were significantly lower in mean teacher-report purpose scores than 8th graders (M = 2.95, SD = 1.02, p < .05); additionally, 7th graders (M = 2.99, SD = 083) were also significantly higher in mean teacher-report purpose scores than 6th graders (M = 2.61, SD = 1.91; p < 0.05). Additionally, for the low count for SDQ, there was also a significant difference between grade levels, F(2, 229) = 6.12, p <.01 – such that 8th graders had significantly greater low SDQ counts (M = 5.56, SD = 2.56) than both 7th graders (M = 5.51, SD = 2.29, p<.05), and 6th graders (M = 4.74, SD = 2.56, p <.01). There were no significant differences between grade levels in the other primary outcomes (*ps* >.05; See Table 11). Lastly, one-way ANOVAs were conducted for primary outcomes by ethnicity. Results showed that there were no significant differences between ethnicity in each of the primary outcomes (*ps* >.05).

A set of correlations among all variables was run to examine bivariate relationships. There were significant relationships between the mean self-report purpose score, and all other primary outcomes besides the purpose essay total scale score. Additionally, there were significant relationships between the mean teacher-report

purpose score and the following virtues: mean future-mindedness score, mean teacher-report purpose score and mean diligence score, between the mean teacher-report purpose score and mean Pediatric Quality of Life (PedsQL) score; and between the mean teacher-report purpose score and low scores on the Strengths and Difficulties Questionnaire (reflecting fewer mental health symptoms), *(ps* <.05; see Table 12). There were no significant relationships between mean teacher-report, mean generosity, and mean self-efficacy (*ps > .05*).

The virtues/SEL variables were significantly interrelated, and had small or no relationships with the indicators of mental health. There were significant relationships between the mean future-mindedness score and the mean diligence score*,* mean generosity score, mean self-efficacy score, mean Pediatric Quality of Life (PedsQL) score, and low scores on the Strengths and Difficulties Questionnaire (SDQ) *(ps <.05*). There were significant relationships between the mean diligence score and the mean generosity score, between the mean diligence score and the mean self-efficacy score, between the mean diligence score and the Pediatric Quality of Life (PedsQL) score *r =*-128*, p <.05*. There was no significant relationship between the mean diligence score and the Strengths and Difficulties Questionnaire (SDQ), p > *.05*.

There were significant relationships between the mean generosity score and the mean self-efficacy score. There were no significant relationships between generosity, mean Pediatric Quality of Life (PedsQL) score, and low scores on the Strengths and Difficulties Questionnaire (SDQ), *ps > .05*. There were significant relationships between the mean self-efficacy score and the mean Pediatric Quality of Life (PedsQL) score,

between the mean self-efficacy score and low scores on the Strengths and Difficulties Questionnaire (SDQ), p <.01.

Lastly, there was a significant inverse relationship between mental health as measured by the Pediatric Quality of Life (PedsQL) and "low" negative mental health as measured by the Strengths and Difficulties Questionnaire (SDQ), p < .01; see Table 12.

Research Question #1

To address the first research question of how the quantitative (self-report and teacher-report) measures of purpose related to each other, in the sample as a whole, and within socio-demographic groups, canonical correlations were conducted to identify the multivariate relationships between teacher-report and student self-report items in the total sample, as well as within different socio-demographic groups within the sample. For the full sample, canonical correlation analyses between teacher ratings and student self-report revealed that in these students, the components of the two quantitative purpose measures were significantly related; Wilk's λ = .90, F(15, 698.82) =1.87, p < .05. Only function 1 emerged as significant; it was negatively associated (inversely correlated) with all items on the self-report and teacher-report scale and explained 8.15% of the variance. This pattern remained true when running the same analysis within males only, within females only, within the subset of Hispanic students, for PS 17, for PS 27, and within each grade level (6th, 7th, and 8th grade), p < .05. When re-running the analysis for specific exploratory dimensions, the model remained significant for purpose intention (p<.05) and engagement (p<.05), but not beyond-the-self (p>.05).

Because the beyond-the-self purpose dimension only consisted of one item, discriminant analyses were run after recoding the beyond-the-self variable into 2, 3, and 4

groups based on their self-report rating. The groups were created by grouping together the responses: the 2 group analysis consisted of students who rated 1, 2, and 3 in the first group and students who rated 4 and 5 in the second group. The 3 group analysis consisted of students who rated 1, 2, and 3 in the first group, 4 in the second group, and 5 in the third group. Lastly, the 4 group analysis consisted of students who rated 1 or 2 in the first group, 3 in the second group, 4 in the third group, and 5 in the fourth group. The value of Wilk's λ for all 3 analyses were not significant ($p > .05$). However, there was a pattern in which the 2-group analysis showed higher levels of positive purpose and negative purpose as rated by teachers when there was a higher beyond-the-self self-report score. Both the 3 group analysis and the 4 group analysis had higher levels of positive purpose and negative purpose in the middle ratings as compared with the highest and lowest ratings.

Research Question #2

To address the second research question, and to examine how the various indices of purpose converge within individual students, several two-step cluster analyses were conducted to yield profiles according to the three purpose indicators. Because of sociodemographic differences, two-step cluster analyses were conducted separately for PS 17 and PS 27. Cluster analysis is a person-centered classification strategy (Burrow et al., 2010) that classifies participants into smaller groupings based on participant characteristics. Twostep Clustering on SPSS was developed by Chiu, Fang, Chen, Wang, and Jeris (2001). Unlike other cluster analysis methods such as hierarchical and k-means clustering, the two-step cluster analysis method allows for cluster formation on the basis of both categorical and continuous data simultaneously, and the number of clusters is

automatically determined as the optimal number of clusters that maximize the silhouette scores for the given data.

As apparent by the name, this cluster analysis method consists of two steps. The first step consists of is "pregrouping" or "initial clustering," where the data is scanned individually and grouped into small subclusters; each observation is grouped into an existing subcluster or a new subcluster based upon the log-likehood distance criteria, which is generally used to maximize the probability or likelihood of the data, or each observation - given the (final) clusters assigned. The subclusters are then treated as individual observations and used as the basis of the next step. In the second step, based on the hierarchical technique, the subclusters are merged and grouped into the final number of clusters, based on the algorithm of the twostep cluster analysis (Barcher et al., 2004; Radovic et al., 2017; Trpkova & Tevdovski, 2009; Yu, 2010). In this study, Schwarz's Bayesian Information Criterion (BIC) was used as the algorithm to form the distinct clusters, as it provides a stronger penalty against complexity and a more conservative estimate of goodness of fit than the Akaike Information Criterion (AIC) and results in a simpler model (Yu, 2010). Therefore, the BIC was used to select a model that is most probable, a posteriori, and number of clusters was determined automatically.

For the current study, a principle components analysis for the self-report and teacher-report purpose measures suggested that each measure consisted of one factor; however, to better study the theoretical construct purpose as indicated by individual dimensions, the individual dimensions of purpose (purpose intention, engagement, and beyond-the-self) were added as input variables into the cluster analysis rather than the total purpose essay score. Therefore, because both categorical (scores from each purpose

essay dimension) and continuous variables (self-report and teacher-report purpose scores) were input into the cluster analysis, the log-likelihood distance measure, which assumes that the variables in the model are independent and represents distance based on probability, was used (on the other hand, if all variables in the dataset were continuous, the Euclidean distance measure would have been used; Radovic et al., 2017; Trpkova & Tevdovski, 2009).

For this study, the average silhouette score was used a measure of overall cluster quality and structure, indicating the extent to which the difference between clusters is due to an underlying difference rather than due to chance. Silhouette scores are determined by comparing the dissimilarity between the case and other cases in the same cluster, and the dissimilarity between the case to other clusters that the case is not a part of (Radovic et al., 2017). According to Kaufman & Rousseeu (1990), average silhouette scores between 0 and 0.2 are considered poor, scores between 0.2 and 0.5 are considered fair, and scores between 0.5 and 1 are considered good.

For PS 17, when mean scores of the self-report and teacher-report, as well as each individual dimension of the Purpose Essay, were entered into the cluster analysis, three distinct clusters emerged, with an average silhouette score rounding .4, indicating fair cluster quality and structure. The most important predictor of cluster membership was the beyond-the-self, coded Purpose Essay score (*importance* =1.00), followed by the current engagement Purpose Essay score (*importance* = 0.72), and then mean teacher-report purpose score (*importance* = 0.06). Cluster 1 consisted of 30.5% of the sample; students in this cluster tended to endorse a beyond-the-self sentiment and intention in their purpose essay but not current engagement in their purpose; they also tended to have

teacher-report purpose scores above the median and self-report purpose scores near the median and thus was titled "beyond-the-self without engagement." Cluster 2 consisted of 42.0% of the sample, and tended to endorse all 3 dimensions of purpose in their essays and a teacher-report purpose near the sample's median and self-report purpose above the sample's median, and thus was titled "fully developed purpose". Cluster 3 consisted of 27.5% of the sample and tended to endorse intention, engagement, but not beyond-the-self in their purpose essay; they also tended to have teacher-report and self-report levels of purpose below the median, and thus was titled "self-oriented life goal" – in relation to the categories developed by Moran (2009; see Figure 1).

Subsequent ANOVAs for PS 17 found that when comparing the three clusters, purpose essay total scale scores were significantly different from each other (p<.001), such that cluster 2 ("fully developed purpose") had the highest purpose essay total scale score (M= 2.93, SD = .26), followed by cluster 1 ("beyond-the-self without engagement"; M = 2.00, SD = 0.00) and then cluster 3 ("self-oriented life goal"; M = 1.44, SD = 0.67). Mean teacher-report purpose scores were also significantly different between the 3 clusters (p < .05), such that cluster 1 ("beyond-the-self without engagement") had the highest mean teacher-report purpose score (M = 3.35, SD = .78), followed by cluster 2 ("fully developed purpose"; M = 2.87, SD = 1.03), and then cluster 3 (M = 2.62, SD = .99). The three clusters did not significantly differ on any other variable (including sociodemographic variables, *ps* >.05).

For PS 27, when mean scores of the self-report and teacher-report, as well as each individual dimension of the Purpose Essay, were entered into the cluster analysis, three distinct clusters also emerged, with an average silhouette score rounding .5, indicating

fair cluster quality and structure. The most important predictor of cluster membership was the current engagement Purpose Essay score (*importance* = 1.00), followed by the beyond-the-self coded Purpose Essay score (*importance* = 0.75), then followed by the intention Purpose Essay score (*importance* = 0.03). Cluster 1 consisted of 45.4% of the sample; students in this cluster tended to endorse purpose intention and engagement but not beyond-the-self purpose in their essay, and thus was titled "self-oriented life goal;" this group showed teacher-report purpose slightly below the median, and self-report purpose near the median. Cluster 2 consisted of 30% of the sample; students in this cluster tended to endorse intention and beyond-the-self sentiments, but not current action in their essay, mean self-report purpose near the median, and mean teacher-report purpose above the sample's median, and thus was labeled "beyond-the-self without engagement." Cluster 3 consisted of 24.6% of the sample; students in this cluster tended to endorse all 3 dimensions of purpose in their essay and thus was titled "fully developed purpose"; this group had teacher-report levels of purpose slightly below the median, and self-report levels of purpose at the median.

Lastly, subsequent ANOVAs for PS 27 found that when comparing the three clusters, purpose essay total scale scores were significantly different from each other (p<.001), such that cluster 3 ("fully developed purpose") had the highest total purpose essay score (M = 3.00, SD = .00), followed by cluster 1 (M = 1.97, SD = .18) and then cluster 2 (M = 1.41, SD = .62). The three clusters did not significantly differ on any other variable (including sociodemographic variables, *ps* >.05).

From both PS 17 and PS 27, three distinct clusters emerged with similar patterns – one cluster that tended to endorse all three dimensions of purpose, one cluster of

students that tended to endorse intention and beyond-the-self but not current action, and one cluster that tended to endorse intention and current action and not beyond-the-self (see Table 13). The clusters that did not tend to endorse beyond-the-self but endorsed current action also tended to have below median levels of teacher-reported purpose, while the clusters of students that tended to endorse beyond-the-self (but not current action) tended to have above median levels of teacher-reported purpose. Interestingly, students who expressed all three aspects of purpose on their essays also tended to have teachers who rated their students at the median of purpose.

Research Question #3

Several hierarchical regression analyses were conducted with the two mental health variables - Strengths and Difficulties Questionnaire (SDQ) and the Pediatric Quality of Life (PedsQL) - as outcome measures. Self-efficacy, diligence, generosity, and future-mindedness were added hierarchically, and then the purpose variable(s) were entered, individually and in combinations. When examining SDQ as the outcome variable, only the addition of self-report purpose above the outcome variables had a significant R^2 change when added to the prior variables ($p<.001$, R^2 change = .085; see Table 14); the addition of teacher-report purpose and purpose essay total score alone did not yield a significant R^2 change score. When adding any two purpose measures, with SDQ as outcome, there were no significant interaction terms; however, when examining all three purpose measures, the addition of the interaction term between the three measures (self-report purpose X teacher-report purpose X purpose essay total scale score) yielded a significant R^2 change above the individual purpose measures ($p<.01$, R^2 change = .037; see Table 15). Additionally, the addition of the interaction term of all three

purpose measures yielded self-report purpose, teacher-report purpose and purpose essay total score, as well as all interaction terms between any two purpose measures, as significant predictors of SDQ. Table 14 shows the regression with SDQ as an outcome, and self-report purpose in addition to the character virtues of interest, while Table 15 summarizes the SDQ analyses with all outcome measures, including the interaction of the three purpose scores.

When examining PedsQL as the outcome variable, only the addition of generosity was a significant predictor (p<.05, R^2 change = .024). None of the purpose measures significantly predicted PedsQL, either individually or together as an interaction.

Discussion

The current study sought to answer the following research questions: (1) How are the quantitative (self-report and teacher-report) measures of purpose related to each other? (2) How do the students "cluster together" on each of the three measures of purpose, and how do these clusters based on purpose vary across socio-demographic variables, levels of mental health, and other character virtues? And (3) Does examining multiple measures of purpose better statistically predict mental health than incorporating a single measure of purpose?

The study found that self-report ratings of purpose and teachers' ratings of purpose were significantly related, that students tended to fall into three distinct clusters with varying levels of purpose (each tending to endorse at least two out of three theoretically supported "dimensions" of purpose), and that the self-report purpose score was the sole significant predictor of mental health as measured by the Strengths and Difficulties Questionnaire (SDQ). Note, however, that there also was a significant interaction in predicting the SDQ when adding all three measures of purpose: self-reported purpose, teacher-report purpose, and purpose essay total score. The importance of purpose development in youth has been increasingly validated by research, and this study suggests that using a multi-method and multi-informant approach can help account for the most variance in accounting for the relationship between having a sense of purpose and predicting positive mental health.

The study utilized a mixed-methods methodology, in which *embedding* was used as the methodological integration approach in this study; this involved linking qualitative data and quantitative data at multiple points through a combination of *merging* (bringing

the two databases together for analysis and comparison) and *building* (generating the initial a priori codes for the Purpose Essays from quantitative Purpose dimensions in the survey; Fetters, Curry & Creswell, 2013). Here, quantitative methods were used to interpret and validate the qualitative Purpose Essay data, and the Purpose Essays were used to add another layer of explanation and interpretation to the quantitative survey data collected from students and teachers.

Canonical correlations

The study found that self-reported ratings of purpose and teacher-reported ratings of purpose were significantly related. Canonical correlations - both on the total sample and within socio-demographic groups – found that one function emerged as significant, that was negatively associated (inversely correlated) with all items on the self-report and teacher-report scale. In terms of socio-demographics, the study found that 6th graders were significantly lower in mean teacher-report purpose scores than 7th and 8th graders. Additionally, for the low count for SDQ, there was also a significant difference between grade levels, such that 8th graders had significantly greater low SDQ counts than both 6th and 7th graders, i.e., they had better mental health.

Cluster analyses

Cluster analyses for PS 17 and PS 27 both revealed three distinct clusters with similar patterns - "beyond-the-self without engagement," (tending to endorse a beyond-the-self sentiment and intention in their purpose essay but not current engagement), "self-oriented life goal," (tending to endorse intention and engagement in their purpose essay but not beyond-the-self sentiment), and "fully developed purpose" (tending to endorse all 3 dimensions of purpose in their essays). For both PS 17 and PS 27, purpose essay total

scale scores were significantly different from each other for the three clusters, such that "fully developed purpose" had the highest total purpose scale ratings. However, for PS 17, students in the beyond-the-self without engagement cluster had higher total purpose essay scores than self-oriented life goal, while for PS 27, students in the self-oriented life goal cluster had higher total purpose essay scores than beyond-the-self without engagement. Students who expressed all three aspects of purpose on their essays also tended to have teachers who rated their students at the median of purpose. The clusters did not differentiate on any of the other outcome variables.

It is of note that for these clusters, purpose essay codes were more important predictors than teacher-report or self-report purpose essay scores. For PS 17, the most important predictor of cluster membership was the beyond-the-self coded Purpose Essay score, followed by the current engagement Purpose Essay score, and then mean teacher-report purpose score. For PS 27, the most important predictor of cluster membership was the current engagement purpose essay score, followed by the beyond-the-self coded purpose essay score, and then by the intention purpose essay score. Both purpose engagement and beyond the-self-purpose were more important predictors of cluster membership than purpose intention – most likely because purpose intention was the least variable dimension within the purpose essays.

It was hypothesized that in relation to different virtues, students with above average scores on the self-report measure of purpose would also report higher levels of these virtues (future-mindedness, perseverance of effort, and generosity), and that self-reported levels of self-efficacy will be lower in a group of students where self-reported levels of purpose are low and teacher-reported levels of purpose are high – this prediction

was based upon a similar finding by Linver and colleagues (2018) albeit using a measure of self-reported confidence instead of self-efficacy

For both PS 17 and PS 27, there was a group of students that tended to endorse all three dimensions of purpose, there was a group of students that tended not to endorse beyond-the-self, and there was a group of students that tended not to endorse current action. For these students, results of Pearson correlations showed that there were no significant relationships between any of the outcome measures and the purpose essay total scale score. This suggests that the purpose essay total scale score represents an aspect of the purpose construct distinct from the self-report measures, while the self-report and teacher-report measures were highly related to each other.

Regression analyses

For the regression analyses, it was found that individually, students' self-report purpose scores were the sole significant predictors of mental health as measured by the Strengths and Difficulties Questionnaire (SDQ), above the other virtues (self-efficacy, diligence, generosity, and future-mindedness, which were found to be non-significant). There was also a significant interaction term between the three measures. This suggests that students' own perceptions of the extent of their purpose in life is important to consider when trying to predict and understand the various aspects influencing mental health in students, although one's own perception of purpose may also interact and be influenced by external perceptions of purpose – such as by teachers and when writing about one's purpose in a more elaborate narrative. Interestingly, this finding was not replicated when the Pediatric Quality of Life (PedsQL) was examined as a predictor – only generosity was found to be a significant positive predictor of the PedsQL. In this

study, the PedsQL was used as a proxy measure of depression; thus, it can be argued that having a generous spirit, or thinking of ways one can help others – thought to be a precursor to the beyond-the-self or prosocial aspect of purpose – can be a protective factor against negative mental health outcomes such as depression.

The finding that there was a significant relationship between self-report and teacher-report is not without precedent; in their study, Linver et al. (2018) also found consistencies between self-report and teacher-report purpose scores. However, the study also found consistencies between self-report and teacher-report measures and the qualitative measures, which was not examined in this study. Additionally, Burrow et al. (2010) found four distinct clusters of purpose instead of three – consisting of achieved, foreclosed, uncommitted, and diffused, although the authors examined different "dimensions" of purpose than the current study (levels of commitment and exploration). Despite this, one similarity is that these clusters were formed from different levels of purpose across these dimensions; "fully developed purpose" is comparable to students who have "achieved" purpose, while "uncommitted" purpose is comparable to students who have "beyond the self without engagement" (see Figure 1).

Implications for Future Research

The results from this study have the potential to inform future research on triangulation of the construct of youth purpose in an urban middle school population, as it incorporates a multiple informant approach to examine the youth purpose construct. However, additional cluster analyses could "weight" the distinct measures of purpose differently, or incorporate other constructs into the cluster analysis. Future research should incorporate more validated purpose measures outside of the ones used in this

study, and include more recently validated measures of purpose such as the Claremont Purpose Scale (Bronk et al., 2018). The current study did not examine additional dimensions, such as level of exploration of purpose, which would be interesting and important to study in future research. It would also be important to include a more in-depth qualitative analysis on a subset of students' essays – for example, examining qualitative differences between the essays from each cluster from the analyses in this study. Additionally, because it is not possible to request follow-up questions in the process of writing an essay, to corroborate the findings from the essays, future research would also benefit from data collection from other sources, such as examining semi-structured interviews.

One limitation to this study is that the data are from youth within urban middle schools in the U.S., and therefore may not generalizable to other contexts. Another limitation to this study is that the essays were not consistent in length and style, which could have been attributed to variation in administration of the essay prompt across different homerooms. Additionally, although the essays were meant to be "disconnected" from the intervention schools, there is a possibility that they were influenced by the concurrent intervention. Future directions for this line of research include standardizing administration of prompt directions – what students write and how they write-- and asking students to be more specific and direct about their purpose. Lastly, it will be important to ask students to revise and proofread their own assignments, in a manner similar to the Laws of Life essays (Elias, 2008), to ensure that students are communicating what they originally intended to communicate.

Implications for Practice

Some implications for practice for this study include focusing on virtues such as generosity and purpose in clinical and school-based interventions at both the Tier 1 and Tier 2 levels. It is interesting to note that each cluster of students indicated by the cluster analyses tended to endorse at least one dimension of purpose; this suggests that at this age group, students would tend to have at least some notion of purpose in their development. However, the results from this study cannot be taken outside of the context of the larger intervention from which the data was collected, which aimed to cultivate character virtues such as purpose, generosity, and diligence.

It is also noteworthy that self-reported purpose was a significant predictor of mental health (as measured by the SDQ). This is supported by previous research that found that purpose in life is associated with positive psychological outcomes, and that lack of purpose has been related to increased levels of psychological distress and poorer mental health (Bronk, 2012; DeWitz, Woolsey, & Walsh, 2009). If one goal – at this age group – is to cultivate students' ability to grow and have positive outcomes, then it is extremely crucial for school-based intervention efforts to increase students' sense of positive purpose. This can be done – at the Tier 1 level - by integrating character virtues into the curriculum or using school mascots or other exemplars to model a positive sense of purpose in these individuals. For students who are in need of greater support – at the Tier 2 or Tier 3 levels, it is also important to directly intervene and provide resources and individualized supports to provide students with the opportunity to cultivate a sense of purpose that can be confirmed through self-assessment and reflection, and observations by others (such as teachers and peers).

In the end, this study aims to add to the literature on youth purpose by using a systematic coding procedure for qualitative essays written about purpose from an urban middle school setting, and analyzing it alongside quantitative self-report and teacher-report survey data to help to better understand the construct. Results suggest that purpose is a complex and important phenomenon, subject to development and growth, with clear relevance to mental health and other character virtues. Human purpose is influenced by context and situations, and are shaped by a multitude of both internal and external factors. As one proverb states," many are the plans in a man's heart, but it is the Lord's purposes that prevail" – still, the developmental stages of human purpose and its measurement will benefit from more study, to better understand purpose in the context of human flourishing (Kristjánsson, 2017). And although in middle school years, purpose is still in its nascent stages and not yet "full-fledged", interventions can be further developed to shape and further cultivate a sense of purpose in students – for their benefit and for that of those around them.

References

Abramoski, K., Pierce, J., Hauck, C., & Stoddard, S. (2018). Variations in adolescent purpose in life and their association with lifetime substance use. *The Journal of School Nursing*, *34*(2), 114-120.

Andrews, M., Bundick, M., Jones, A., Bronk, K. C., Mariano, J. M., & Damon, W. (2006). Revised youth purpose interview. *Unpublished instrument, Stanford Center on Adolescence, Stanford CA*.

Balthip, K., McSherry, W., Petchruschatachart, U., Piriyakoontorn, S., & Liamputtong, P. (2017). Enhancing life purpose amongst Thai adolescents. *Journal of Moral Education*, *46*(3), 295-307.

Bell, P. J., White, G. W., Hatchimonji, D. R., Stepney, C. T., Linsky, A. V., Vaid, E., & Elias, M. J. (2019). Social-normative expectations mediates school climate's association with academic achievement in Latino middle school students. *Education and Urban Society*, *51*(3), 374-394.

Brassai, L., Piko, B. F., & Steger, M. F. (2011). Meaning in life: Is it a protective factor for adolescents' psychological health?. *International Journal of Behavioral Medicine*, *18*(1), 44-51.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Bronk, K. C. (2012). A grounded theory of the development of noble youth purpose. *Journal of Adolescent Research*, *27*(1), 78-109.

Bronk, K. C., Leontopoulou, S., & McConchie, J. (2018). Youth purpose during the great recession: A mixed-methods study. *The Journal of Positive Psychology*, *14*(4), 405-416.

Bronk, K. C., Riches, B. R., & Mangan, S. A. (2018). Claremont Purpose Scale: A measure that assesses the three dimensions of purpose among adolescents. *Research in Human Development*, *15*(2), 101-117.

Bundick, M., Andrews, M., Jones, A., Mariano, J. M., Bronk, J. C., & Damon, W. (2006). *Revised Youth Purpose Survey*. Stanford, CA: Unpublished instrument, Stanford Center on Adolescence.

Bundick, M.J., Andrews, M.C., Jones, A., Moran, S., Mariano, J.M., Bronk, K.C., & Damon, W. (2008). *Youth Purpose Survey Version 2008*. Stanford, CA: Unpublished instrument, Stanford Center on Adolescence.

Burrow, A. L., Hill, P. L., Ratner, K., & Sumner, R. (2018). A better tomorrow: Toward a stronger science of youth purpose. *Research in Human Development*, *15*(2), 167-180.

Burrow, A. L., O'Dell, A. C., & Hill, P. L. (2010). Profiles of a developmental asset: Youth purpose as a context for hope and well-being. *Journal of Youth and Adolescence*, *39*(11), 1265-1273.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.*). Thousand Oaks,* CA: Sage.

Crowell, S. (2004). Existentialism. *The Stanford Encyclopedia of Philosophy.* Retrieved from http://plato.stanford.edu/ entries/existentialism/

Crumbaugh, J. C., & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl's concept of noogenic neurosis. *Journal of Clinical Psychology*, *20*(2), 200-207.

Damon, W., Menon, J., & Cotton Bronk, K. (2003). The development of purpose during adolescence. *Applied Developmental Science*, *7*(3), 119-128.

DeWitz, S. J., Woolsey, M. L., & Walsh, W. B. (2009). College student retention: An exploration of the relationship between self-efficacy beliefs and purpose in life among college students. *Journal of College Student Development*, *50*(1), 19-34.

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and Passion for Long-Term Goals. *Journal of Personality and Social Psychology*, *92*(6), 1087-1101.

Frankl, V. E. (1958). On logotherapy and existential analysis. *The American Journal of Psychoanalysis*, *18*(1), 28-37.

Frankl, V. E. (1985). *Man's Search For Meaning*. Simon and Schuster.

Friedman, H. H., & Klein, Y. L. (2010). Respect for god's world: the Biblical and Rabbinic foundations of environmentalism. *International Journal of Business and Globalisation*, *4*(2), 192-200.

Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry*, *7(3)*, 125-130.

Han, H. (2015). Purpose as a moral virtue for flourishing. *Journal of Moral Education*, *44*(3), 291-309.

Hatchimonji, D. (2016). *Grit in Latino middle school students: Construct validity and psychometric properties of the short grit scale* (Master's thesis). Retrieved from Rutgers University Library Database.

Hatchimonji, D. R., Linsky, A. V., & Elias, M. J. (2017). Cultivating noble purpose in urban middle schools: A missing piece in school transformation. *Education*, *138(2),* 162-178.

Hill, P. L., Sumner, R., & Burrow, A. L. (2014). Understanding the pathways to purpose: Examining personality and well-being correlates across adulthood. *The Journal of Positive Psychology*, *9(3),* 227-234.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277-1288.

Inhelder, B., & Piaget, J. (1958). *The growth of logical thinking from childhood to adolescence.* New York: Basic Books.

Kristjansson, K. (2017). Recent work on flourishing as the aim of education: A critical review. *British Journal of Educational Studies*, *65(1)*, 87-107.

Linver, M. R., Urban, J. B., MacDonnell, M., Roberts, E. D., Quinn, J., Samtani, S., Doubledee, R., Gama, L., & Morgan, D. (2018). Mixed methods in youth purpose: An examination of adolescent self-regulation and purpose. *Research in Human Development*, *15*(2), 118-138.

Lippman, L.H., Moore, K.A., Guzman, L., Ryberg, R., McIntosh, H., Ramos, M.F., Caal, S., Carle, A., & Kuhfeld, M. (2014). Pilot study and psychometric analyses. In *Flourishing Children: Defining and Testing Indicators of Positive Development*. (pp. 45-105). Springer Netherlands, Dordrecht.

Machell, K. A., Disabato, D. J., & Kashdan, T. B. (2016). Buffering the negative impact of poverty on youth: The power of purpose in life. *Social Indicators Research*, *126*(2), 845-861.

Malin, H. (2018). *Teaching for Purpose: Preparing Students for Lives of Meaning*. Harvard Education Press. 8 Story Street First Floor, Cambridge, MA 02138.

Malin, H. (2015). Arts participation as a context for youth purpose. *Studies in Art Education*, *56*(3), 268-280.

Malin, H., Reilly, T. S., Yeager, D., Moran, S., Andrews, M., Bundick, M., & Damon, W. (2008). *Youth purpose project: Interview coding process for forms of purpose determination.* Stanford, CA ←

Mariano, J. M., Going, J., Schrock, K., & Sweeting, K. (2011). Youth purpose and the perception of social supports among African-American girls. *Journal of Youth Studies*, *14*(8), 921-937.

Mariano, J. M., & Savage, J. (2009). Exploring the language of youth purpose: References to positive states and coping styles by adolescents with different kinds of purpose. *Journal of Character Education*, *7*(1), 1-24.

Moran, S. (2009). Purpose: Giftedness in intrapersonal intelligence. *High Ability Studies*, *20(2)*, 143-159.

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, *40*(2), 120-123.

Nayman, S. J., Elias, M. J., Selby, E. A., Fishman, D. B., Linsky, A. C., & Hatchimonji, D. R. (2019). The Relationship among Purpose Classification, Purpose Engagement, and Purpose Commitment in Low Socioeconomic Status and Ethnically Diverse Adolescents. *Journal of Character Education*, *15*(2), 53-70.

Ou, S. R., & Reynolds, A. J. (2008). Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly*, *23*(2), 199.

Rosenblueth, A., Wiener, N., & Bigelow, J. (1943). Behavior, purpose and teleology. *Philosophy of Science*, *10*(1), 18-24.

Ryff, C. D. (I989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57,* 1069-1081.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personal and Social Psychology, 69,* 719-727.

Shernoff, E. S., Frazier, S. L., Maríñez-Lora, A. M., Lakind, D., Atkins, M. S., Jakobsons, L., ... & Smylie, M. A. (2016). Expanding the role of school psychologists to support early career teachers: A mixed-method study. *School Psychology Review*, *45*(2), 226-249.

Sherry, A., & Henson, R. K. (2005). Conducting and interpreting canonical correlation analysis in personality research: A user-friendly primer. *Journal of Personality Assessment*, *84*(1), 37-48.

Urban, J. B., Burgermaster, M., Archibald, T., & Byrne, A. (2015). Relationships between quantitative measures of evaluation plan and program model quality and a qualitative measure of participant perceptions of an evaluation capacity building approach. *Journal of Mixed Methods Research*, *9(2),* 154-177.

Van Dyke, C. J., & Elias, M. J. (2008). How Expressions of Forgiveness, Purpose, and Religiosity Relate to Emotional Intelligence and Self-Concept in Urban Fifth-Grade Students. *American Journal of Orthopsychiatry*, *78*(4), 481-493.

Varni, J. W., Seid, M., & Rode, C. A. (1999). The PedsQL™: measurement model for the pediatric quality of life inventory. *Medical Care*, 126-139.

Woolfolk, R. L., & Wasserman, R. H. (2005). Count no one happy: Eudaimonia and Positive Psychology. *Journal of Theoretical and Philosophical Psychology*, *25(1),* 81.

Yeager, D. S., Henderson, M. D., Paunesku, D., Walton, G. M., D'Mello, S., Spitzer, B. J., & Duckworth, A. L. (2014). Boring but important: A self-transcendent purpose for learning fosters academic self-regulation. *Journal of personality and social psychology*, *107*(4), 559.

Appendix A

Table 1.
Forms of purposefulness, based on how they rank on each of the three operationalized dimensions of purpose – intention, engagement, and beyond the self (prosocial reasoning). Adapted from Moran (2009).

Form	Intention	Engagement	Beyond-the Self (Prosocial)
Purpose	High	High	High
Self-oriented life goal	High	High	Low
Beyond-the-self dream	High	Low	High
Self-oriented dream	High	Low	Low
Dabbling	Low	High	High
Vision	Low	Low	High
Drifting	Low	High	Low
Drifting	Low	Low	Low

Table 2.
Self-Report Purpose Scale

Item	Dimension	Source
1. My life will make a difference in the world.	Beyond the Self	Lippman et al., 2014
2. I am doing things now that will help me to achieve my purpose in life.	Engagement	Lippman et al., 2014
3. My life has a clear sense of purpose.	Intention	Bundick et al., 2008
4. I am always working toward accomplishing my most important goals in life.	Engagement	Bundick et al., 2008
5. I have a purpose in my life that says a lot about who I am.	Intention	Bundick et al., 2008
Response Format: 1 = Disagree A LOT!, 2 = Disagree a little, 3 = Neither Agree nor Disagree, 4 = Agree a little, 5 = Agree A LOT!		

Table 3.
Teacher-Report Purpose Scale - Adapted from Van Dyke & Elias (2008)

1. During the past 4 weeks, how often did the student act as if he/she has a sense of purpose in life?

2. During the past 4 weeks, how often did the student appear aimless or seem to lack direction?

3. During the past 4 weeks, how often did the student appear to be motivated by a negative purpose?

Response Format: 0 = Never, 1 = Rarely, 2 = Occasionally, 3 = Frequently, 4 = Very Frequently

Table 4.
Future-mindedness Scale - Adapted from Ou & Reynolds (2008)

1. In the future, I will graduate from high school.

2. In the future, I will go to college.

3. In the future, I will have a job that pays well.

4. In the future, I will contribute meaningfully to my community. "Contribute meaningfully" means to help out a lot.

5. In the future, I will have a happy family life.

6. In the future, I will stay in good health most of the time.

Response Format: 1 = Disagree A LOT!, 2 = Disagree a little, 3 = Neither Agree nor Disagree, 4 = Agree a little, 5 = Agree A LOT!

Table 5.
Diligence Scale

Item	Source
1. Can people count on you to get tasks done?	Diligence Scale for Teenagers (Lippman et al., 2014)
2. Do you do the things you say you are going to do?	Diligence Scale for Teenagers (Lippman et al., 2014)
Response Format: 1 = None of the time, 2 = A little of the time, 3 = Half of the time, 4 = Most of the time, 5 = All of the time	
3. I finish whatever I begin.	Short Grit Scale (Grit-S; Duckworth & Quinn, 2009)
4. I am a hard worker.	Short Grit Scale (Grit-S; Duckworth & Quinn, 2009)
5. I am diligent. "Diligent" means I am careful and responsible in the things I do.	Short Grit Scale (Grit-S; Duckworth & Quinn, 2009)
Response Format: 1 = Not at all like me, 2 = A little like me, 3 = Half the time like me, 4 - Usually like me, 5 = Always like me	

Table 6.

Generosity Scale - from Generosity/Helping family and friends scale for adolescents, Lippman et al., (2014)

1. I go out of my way to help others

2. I help others even if it requires a lot of my time

3. I help others even if that person is a total stranger

4. I help others even I it is hard for me

Response Format: 1 = Not at all like me, 2 = A little like me, 3 = Half the time like me, 4 - Usually like me, 5 = Always like me

Table 7.

General Perceived Self-Efficacy Scale - Schwarzer & Jerusalem, (1995)

1. I can always manage to solve difficult problems if I try hard enough.

2. If someone opposes me, I can find the means and ways to get what I want

3. It is easy for me to stick to my aims and accomplish my goals.

4. I am confident that I could deal efficiently with unexpected events.

5. Thanks to my resourcefulness, I know how to handle unforeseen situations

6. I can solve most problems if I invest the necessary effort.

7. I can remain calm when facing difficulties because I can rely on my coping abilities.

8. When I am confronted with a problem, I can usually find several solutions.

9. If I am in trouble, I can usually think of a solution

10. I can usually handle whatever comes my way

Response Format: 1 = Not at all true, 2 = Hardly true, 3 = Moderately true, 4 = Exactly true

Table 8.

Strengths and Difficulties Questionnaire - Goodman et al., (1998)

Item	Subscale
1. I get a lot of headaches, stomach-aches or sickness.	Emotional Problems
2. I get very angry and often lose my temper.	Conduct Problems
3. I worry a lot.	Emotional Problems
4. I fight a lot. I can make other people do what I want.	Conduct Problems
5. Other people my age generally like me.	Peer Problems
6. I am nervous in new situations. I easily lose confidence.	Emotional Problems
7. I am often accused of lying or cheating.	Conduct Problems
8. Other children or young people pick on me or bully me.	Peer Problems
9. I get along better with adults than with people my own age.	Peer Problems
10. I have many fears, I am easily scared.	Emotional Problems

Response Format: 1 = Not True, 2 = Somewhat True, 3 = Certainly True

Table 9.

The Pediatric Quality of Life (PedsQL) Teen Report - Varni et al., (1999)

1. It is hard for me to walk more than one block

2. It is hard for me to lift something heavy

3. It is hard for me to do chores around the house

4. I hurt or ache

5. I have low energy

Response Format: 1 = Never, 2 = Almost Never, 3 = Sometimes, 4 = Often, 5 = Almost Always

Table 10. Means and Standard Deviations for all variables of interest among males and females.

	Males (n = 137)		Females (n = 124)	
	M	SD	M	SD
Self-reported purpose	4.13	0.77	4.25	0.78
Teacher-reported purpose***	**2.69**	**0.96**	**3.03**	**0.89**
Total purpose essay score	2.11	0.69	2.23	0.72
Self-Efficacy	3.25	0.67	3.15	0.55
Generosity*	**3.25**	**0.97**	**3.54**	**0.98**
Diligence*	**3.83**	**0.77**	**4.07**	**0.68**
Future-mindedness	4.63	0.63	4.52	0.52
PedsQL	1.93	0.83	1.98	0.76
Low Count for SDQ	7.97	2.93	7.91	2.37

* p < .05, ** p < .01, *** p <.005

Table 11. Means and Standard Deviations of all outcome measures by grade level (6th graders, 7th graders, and 8th graders).

	6th Graders (n = 85)		7th Graders (n = 85)		8th Graders (n = 91)		F	df
	M	SD	M	SD	M	SD		
Self-reported purpose	4.24	0.69	4.11	0.88	4.28	0.68		
Teacher-reported purpose*	**2.61**	**0.91**	**2.99**	**0.83**	**2.96**	**1.02**	**4.49**	**260**
Total purpose essay score	2.28	-0.59	2.23	0.71	2.05	0.83		
Self-Efficacy	3.23	0.70	3.14	0.65	3.21	0.56		
Generosity	3.27	1.01	3.33	1.04	3.27	1.01		
Diligence	3.99	0.67	3.87	0.82	3.52	0.97		
Future-mindedness	4.55	0.56	4.51	0.76	4.69	0.38		
PedsQL	1.98	0.77	1.91	0.76	1.90	0.89		
Low Count for SDQ**	**4.74**	**2.56**	**5.51**	**2.29**	**5.56**	**2.50**	**6.12**	**231**

* p < .05, ** p < .01, *** p <.005

Table 12. Correlation table of all variables examined in the current study.

Variable (Spring '16)	1	2	3	4	5	6	7	8	9
1. Purpose Essay Total Scale Score	1	-	-	-	-	-	-	-	-
2. Mean Self-Report Purpose Score	0.02	1	-	-	-	-	-	-	-
3. Mean Teacher-Report Purpose Score (3 items)	-0.02	.17**	1	-	-	-	-	-	-
4. Mean Future-mindedness Score	0.05	.50**	0.10	1	-	-	-	-	-
5. Mean Diligence Score	0.02	.38**	0.10	.43**	1	-	-	-	-
6. Mean Generosity Score	0.06	.35**	-.012	.23**	.38**	1	-	-	-
7. Mean Self-Efficacy Score	0.02	.50**	0.04	.36**	.41**	.35**	1	-	-
8. Mean PedsQL Score	0.02	-.13*	-0.16*	-0.18**	-.16*	0.01	-.17*	1	-
9. "Low" Recoded SDQ score	-0.12	.27**	.17**	.17**	0.08	0.03	0.11	-.50**	1

_ *Note:* *p<.05, **p<0.01

Table 13. Means and Standard Deviations from cluster analysis for PS 17 and PS 27.

	Score Range	Cluster 1 "Beyond the self without engagement"			Cluster 2 "Fully developed purpose"			Cluster 3 "Self-oriented life goal"		
		N	M	SD	N	M	SD	N	M	SD
PS 17 Input Variables:		Total = 40			Total = 55			Total = 36		
Self-reported purpose	1 - 5		3.90	0.95		4.38	0.72		4.15	0.70
Teacher-reported purpose*	0 - 4		**3.36**	**0.78**		**2.88**	**1.03**		**2.60**	**0.99**
Purpose Intention (Essay Score)*	**0 - 1**	(40/40)	**1.00**	**0.00**	(48/55)	**0.87**	**0.34**	(31/36)	**0.87**	**0.34**
Purpose Engagement (Essay Score)***	**0 - 1**	(0/40)	**0.00**	**0.00**	(55/55)	**1.00**	**0.00**	(20/36)	**0.55**	**0.50**
Beyond- the-self (Essay Score)	0 - 1	(40/40)	1.00	0.00	(55/55)	1.00	0.00	(0/36)	0.00	0.00
PS 17 Evaluation Variables:										
Total purpose essay score*	0 - 3		**2.00**	**0.00**		**2.93**	**0.26**		**1.44**	**0.67**
Self-Efficacy	1 - 4		2.90	0.51		3.15	0.49		2.97	0.43
Generosity	1 - 5		3.30	0.88		3.48	1.12		3.41	0.85
Diligence	1 - 5		3.93	0.73		3.93	0.76		3.92	0.74
Future-mindedness	1 - 5		4.48	0.82		4.64	0.66		4.65	0.43
PedsQL	1 - 5		1.98	0.76		2.00	0.97		1.94	0.93
Low Count for SDQ	1 - 3		5.38	2.40		5.34	2.91		5.78	2.09
PS 27 Input Variables:		Total = 32			Total = 39			Total = 59		
Self-reported purpose	5 - 25		4.31	0.6		4.30	0.69		4.15	0.91
Teacher-reported purpose	0 - 4		2.92	0.80		2.92	0.83		4.82	1.18
Purpose Intention (Essay Score)	0 - 1	(29/32)	0.91	0.30	(39/39)	1.00	0.00	(57/59)	0.97	0.18
Purpose Engagement (Essay Score)	0 - 1	(0/32)	0.00	0.00	(39/39)	1.00	0.00	(59/59)	1.00	0.00
Beyond- the-self (Essay Score)*	**0 - 1**	(18/32)	**0.56**	**0.50**	(39/39)	**1.00**	**0.00**	(0/59)	**0.00**	**0.00**
PS 27 Evaluation Variables:										
Total purpose essay score*	0 - 3		**1.41**	**0.6**		**3.00**	**0.00**		**1.97**	**0.18**
Self-Efficacy	1 - 4		3.46	0.6		3.58	0.91		3.27	0.67
Generosity	1 - 5		3.38	0.9		3.45	1.17		3.32	1.09
Diligence	1 - 5		3.79	0.8		4.00	0.89		3.96	0.73
Future-mindedness	1 - 5		4.54	0.6		4.62	0.58		4.51	0.59
PedsQL	1 - 5		1.92	0.7		1.83	0.64		1.83	0.74
Low Count for SDQ	1 - 10		5.06	2.5		4.62	2.56		5.55	2.03

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

Self-Efficacy, Generosity, Diligence, and Future-mindedness: 1-2 = Low, 3 = Moderate, 4-5 = High

PedsQL: Pediatric Quality of Life: 1-2 = Better mental health, 3-5 = Poorer mental health;

SDQ: Strengths and Difficulties Questionnaire. Number of areas of mental health difficulty, out of 10; "Low Count" refers to number of areas where there was no difficulty;

Based on SD, 8-10 is positive mental health, 4-7 is average mental health, 1-3 is poor mental health.

Table 14. Multiple Regression analysis with Strengths and Difficulties Questionnaire (SDQ) as outcome, and self-reported purpose as a predictor.

Block	Variable	β	t	R square change
1	Self-Efficacy	0.05	0.61	0.002
2	Self-Efficacy	0.04	0.47	0.000
	Diligence	0.02	0.21	
3	Self-Efficacy	0.45	0.52	0.000
	Diligence	0.02	0.26	
	Generosity	-0.02	-0.25	
4	Self-Efficacy	0.03	0.29	0.007
	Diligence	-0.01	-0.29	
	Generosity	-0.03	-0.35	
	Future-mindedness	0.10	1.08	
5	Self-Efficacy	-0.10	-1.06	**0.085***
	Diligence	-0.03	-0.32	
	Generosity	-0.09	-1.08	
	Future-mindedness	-0.01	-0.13	
	Self-reported purpose*	**0.37**	**3.93**	

Note: *** $p < .001$

Table 15. Multiple Regression analysis with Strengths and Difficulties Questionnaire (SDQ) as outcome, and all three purpose items, as well as interaction terms, as predictors.

Block	Variable	β	t	R square change
1	Self-Efficacy	0.05	0.61	0.002
2	Self-Efficacy	0.04	0.47	0.000
	Diligence	0.02	0.21	
3	Self-Efficacy	0.45	0.52	0.000
	Diligence	0.02	0.26	
	Generosity	-0.02	-0.25	
4	Self-Efficacy	0.03	0.29	0.007
	Diligence	-0.01	-0.29	
	Generosity	-0.03	-0.35	
	Future-mindedness	0.10	1.08	
5	Self-Efficacy	-0.08	-0.93	**0.098***
	Diligence	-0.04	-0.42	
	Generosity	-0.09	-1.03	
	Future-mindedness	0.00	-0.02	
	Self-reported purpose*	**0.36**	**3.74**	
	Teacher-reported purpose	0.06	0.76	
	Purpose essay total scale score	-0.10	-1.38	
6	Self-Efficacy	-0.09	-0.97	0.011
	Diligence	-0.02	-0.20	
	Generosity	-0.11	-1.23	
	Future-mindedness	0.00	-0.03	
	Self-reported purpose	0.15	0.38	
	Teacher-reported purpose	-0.63	-0.47	
	Purpose essay total scale score	-0.25	-1.31	
	Self-report purpose X Teacher-report purpose	0.10	0.17	
	Self-report purpose X Purpose essay total scale score	0.33	0.63	
	Teacher-report purpose X Purpose essay total scale score	0.37	0.97	
7	Self-Efficacy	-0.08	-0.86	**0.037**
	Diligence	0.00	0.05	
	Generosity	-0.09	-1.03	
	Future-mindedness	0.00	0.04	
	Self-reported purpose*	**2.17**	**2.51**	
	Teacher-reported purpose*	**3.88**	**2.34**	
	Purpose essay total scale score*	**3.05**	**2.06**	
	Self-report purpose X Teacher-report purpose*	**-4.87**	**-2.46**	
	Self-report purpose X Purpose essay total scale score*	**-4.04**	**-2.28**	
	Teacher-report purpose X Purpose essay total scale score*	**-5.67**	**-2.46**	
	Self-report purpose X Teacher-report purpose X Purpose essay total scale score*	**6.75**	**2.63**	

Note: * p < .05; ** p < .01; *** p < .001

	Low	High
High	**Beyond-the-self dream**	**<u>Purpose</u>**
Low	**Non-purpose** (includes self-oriented dream, dabbling, vision, and drifting)	**Self-oriented life goal**

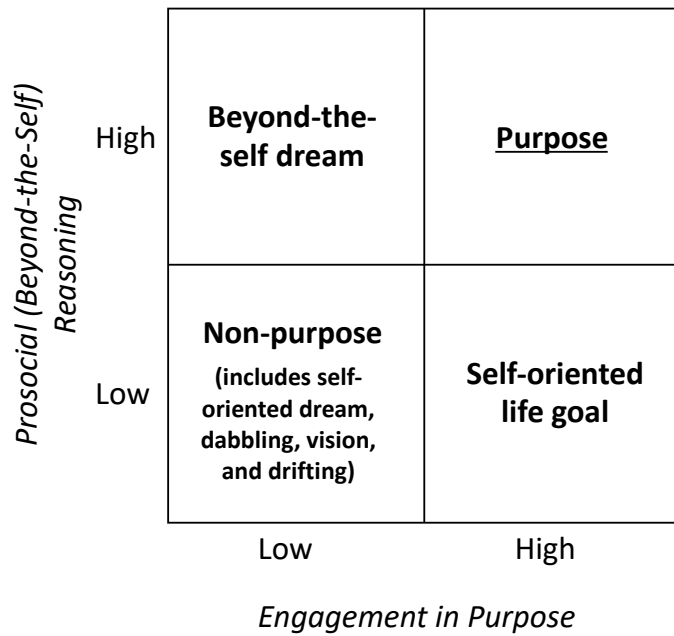*Prosocial (Beyond-the-Self) Reasoning* (vertical axis)

Engagement in Purpose

Figure 1. Forms of purposefulness, assuming high levels of intention, along the dimensions of prosocial, or beyond-the-self reasons (vertical axis) and engagement (horizontal axis). A fully developed purpose consists of high levels of all three dimensions (intention, engagement, and prosocial reasoning). Adapted from Moran **(**2009).
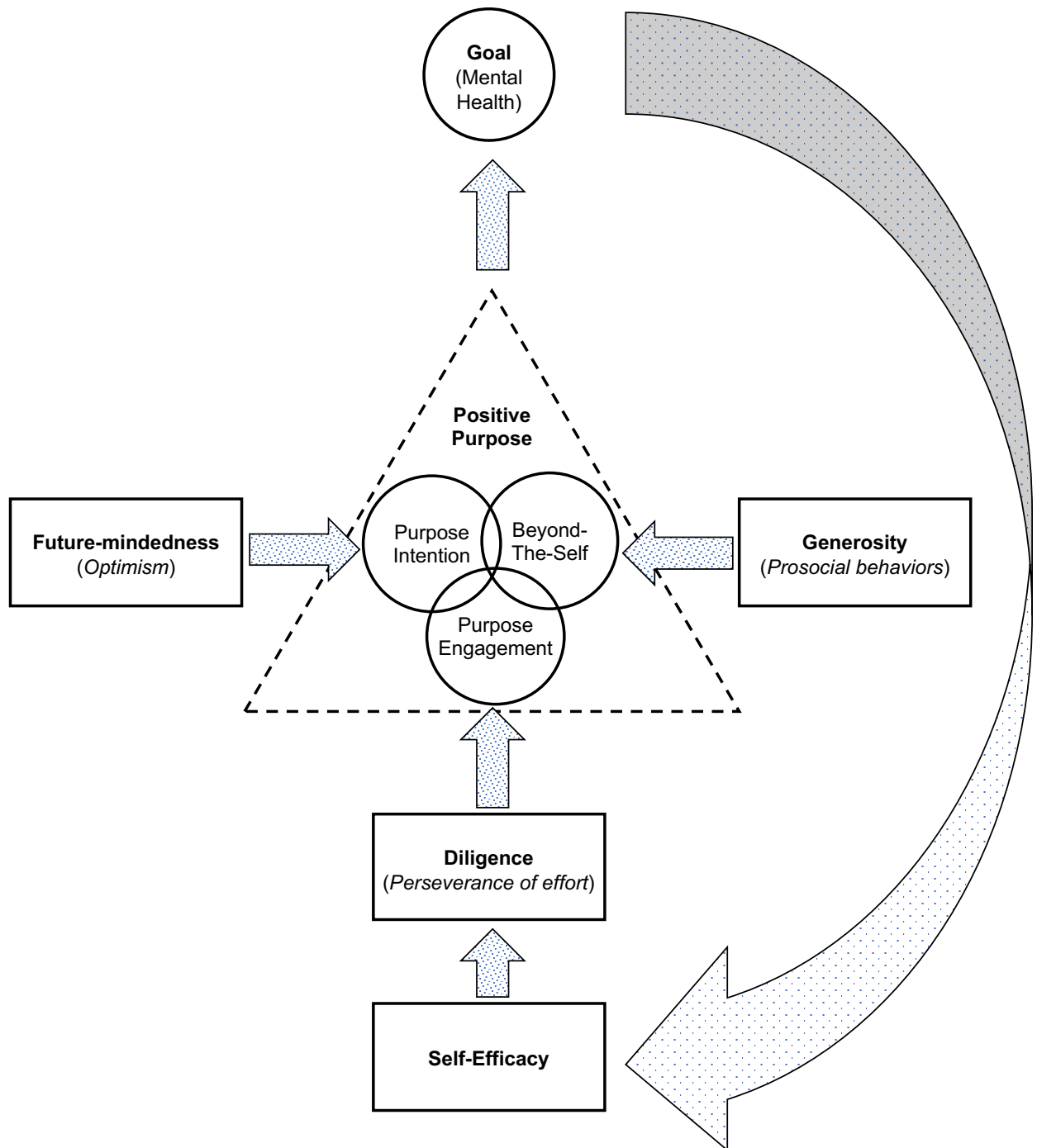
Figure 2. Dynamic conceptual model illustrating how positive purpose is expected to relate to other virtues (i.e., future-mindedness, diligence, and generosity) and self-efficacy in adolescents, when purpose development is successful. As youth envision a positive purpose and engage in beyond-the-self actions to reach their goals (which leads to greater mental health), self-efficacy increases, which in turn, leads to higher levels of perseverance of effort in purpose-related activities (i.e., *purpose engagement*). Future-mindedness contributes to *purpose intention*, and generosity contributes to a *beyond-the-self* conceptualization of purpose.

Coding Manual for Purpose Essays
SECD Lab | *Adapted from Malin et al., (2008)*

Purpose is defined by Damon (2003) as a "stable and generalized intention to accomplish something that is at once meaningful to the self, and is of intended consequence to the world beyond the self." A purpose functions as an 'ultimate concern' or overall goal for one's life, and a complete sense of purpose is marked by beyond-the-self motivations and engagement toward the accomplishment or goal. For this research project, we are interested in understanding the development of purpose for this sample of youth. You will be coding the purpose essays in four passes, or steps:

Pass 1 – Get a sense of the essay
Read through the purpose essay once to get a sense of the person and what is most important to them. Do not code anything, but identify, and make note, of the most important thing or things that are stated for the student to accomplish.

Pass 2 – Identifying purpose *intention*
In a second pass, code the thing(s) that you identified as the most important to accomplish. An accomplishment is a goal or end state that the student identifies as important (i.e. being a doctor, etc.) – which we will refer to as the purpose *intention*. According to Malin's definition (2008), a thing to accomplish should be a goal. Some things that they say are most important to them are not goals, but instead are important aspects of their life, like family and friends. You will need to determine whether or not there is a goal to accomplish related to that the important thing(s) identified.

Examples from essays of purpose intention:

- "My purpose is to get an education and to grow up and be a role model that impacts other people's lives."
- "My purpose in life is to become a computer software engineer. I want to graduate high school, attend college and study in the field of computer programming."
- "…one of my goals, which is with no doubt, the most important goal, is to become a pharmacist."
- "My purpose might be helping others, to help them believe in themselves, be who they truly are."
- "…my dream is to become a soccer player, but one that is admired for his courage."

Sometimes, students also mention not being sure of, or not knowing what their purpose is. If this is mentioned in the essay, make note of this as well.

Examples of being unsure of, or not knowing one's purpose:

- "Although I have not yet discovered my purpose in life, I am definitely thinking about it and always learning more about myself on my journey. These thoughts are helping me learn and grow and move me to think and exploring myself even deeper."
- "Even though I may have not found my full, strong sense of purpose and place on this earth, I am still going on through life awaiting on what will happen next and going on and searching for answers."
- "To be honest, at twelve years old, I'm not really positive what my purpose is."
- "My life purpose is not totally clear to me at this time…"
- "What was the reason & was put on this earth? In my opinion that's something that's not totally important to me right now. Besides I'm still in middle school. I don't know I'm going to do or what I'm going to be."

On the coding spreadsheet:

1. Record any quotes that gives information about the purpose intention (goal or end state that the student identifies as important). If no quotes about a purpose intention exist, record "N/A."
   a. If there is an intention or goal stated, code 1 under "**Purpose Intention**" for purpose intention. If the student does not specify a goal, code 0 for no purpose intention.
2. Record any quotes that indicates that the student is not sure about his or her purpose. If no such quotes exist in the essay, record "N/A."
   a. If the student mentions not being sure about his/her purpose, code 1 under "**Being unsure of, or not knowing one's purpose**". If the student does not mention or indicate this, code 0.

Pass 3 – Identifying current actions (purpose *engagement*), future actions, and accomplishment reasons

After you are able to identify the purpose i*ntention* (the goal or end state that the student identifies as the most important thing to accomplish), the next step is to code additional components of the students' purpose. These components are:

- Current Action: Physical, social, and mental things that the student does – **either in the past or currently**, that are related to the most important thing to accomplish. Note that there must be *concrete behaviors* stated, that the student does him/herself (not just an idea or understanding of what needs to be done) to count as a current action. Actions are indicators that the student is engaged in realizing the goal.

- Future Action: Physical, social, and mental things that the **student expects or plans to do in the future** that are related to the most important thing to accomplish. Future actions are indicators that the person is future-oriented and understands that steps need to be taken to accomplish a goal.

- Accomplishment Reason: **Why** the student says that **they are pursuing the most important thing to accomplish**. Accomplishment reasons indicate whether the goal is self-oriented or beyond the self.

Examples of Current Actions:

- "I love technology computer science it's something I do about every day and not get bored of. I dedicated a lot of time and schedule clearing to do it...."
- "I do extra curricular activities because I love being involved in things I love to do, and it can boost your grade or help you succeed quicker."
- "I used to play with kids when my sister had to babysit them."
- "My mother would always get mad at me when I bang on drums like a crazy person. So when came to our church she signed me up for a performing arts program." → (*indicates past things and actions that have been done*)
- "I started to rap at the age of 12 and I was really good, sooner or later I kept rapping and rapping till I started to think that rapping was my dream"

Examples of Future Actions:

- "I will continue to strive for good grades that will help me be extremely successful in the computer field."
- "To achieve this goal, I would need to save up money to give to shelter homes. I wish to achieve this goal, and help many shelter homes to make a change."

- "I plan to accomplish this goal by working hard in my school life and getting great grades and getting in the NJHS activities which will lead me getting scholarships and getting accepted in a top college in the U.S.A."
- "It's time for me to stop playing and pay attention stop worrying about everyone or everything else and what I got to do for my own good and for my mother and father to be proud of me and not worry about me and think about the bad stuff about me in school."
- "I can also help out with my baby sister if my mom is tire[d]. if she's busy I can feed the baby, change her clothes, or give her a bath"

Examples of Accomplishment reasons:

- "My other reasons why this is my purpose include that my mom is a doctor and my dad is an engineer and when I was little I believed that if they had a kid that kid would have to have an important job like them such as a lawyer."
- "The reason why I want to own my hair shop is because I love doing hair."
- "…I want my clothes to make people feel beautiful."
- "Now being a happy person is part of my purpose because when you're sad all the time, people won't want to bother with you because you make them sad."
- "…my purpose in life is to serve my country because of what the military did for us. I feel like I owe my life to them because if it wasn't for them and them giving [their] lives' to save us some of us wouldn't be here. So I feel like going into the military will help me help others."

On the coding spreadsheet:

1. Record any quotes that gives information about the *current (or past)* action that individuals take toward the goal. If no quotes about current actions exist, record "N/A."
   a. Code 1 under "**Current actions**" for current actions (*which also includes past actions*) stated, or 0 for no current action stated.

2. Record any quotes that gives information about the *future* action that individuals take toward the goal. If no quotes about future actions exist, record "N/A."
   a. Code 1 under "**Future actions**" for future action stated, or 0 for no future action stated.

3. Record any quotes that gives information about the *accomplishment reason,* or the reason that the student is pursuing what they state as the most important thing to accomplish. If no quotes about accomplishment reasons exist, record "N/A."

a. Code 1 under "**Accomplishment reasons**" if the student mentioned a reason for his/her goal or accomplishment, or 0 if no accomplishment reason was stated.

Pass 4 – Identifying if the intention is beyond-the-self

The fourth time you read the essay, you will be using the information you have coded and recorded so far to determine whether the most important thing to accomplish is motivated primarily for self-oriented reasons or beyond-the-self (BEYOND-THE-SELF) reasons. To do this, consider what you have determined to be the purpose *intention* or the most important thing to accomplish (determined in Pass 2), the accomplishment reasons and the action reasons (determined in Pass 3), and any additional quotes from the essay. It is also possible for a purpose to be motivated by both self-oriented and beyond-the-self reasons.

BEYOND-THE-SELF Examples:

- "Another way I plan on helping my family is by working hard and earning money so if they can't pay their bills or need a vacation I can help them out. This shows how I plan to give back to my family."
- "I may end up helping just making one person's life better. Or maybe I could create an antidote for a huge worldwide virus. Though both of these changes are amazing feats, I would much rather make a change that effects a big chunk of the world population. To be able to accomplish something that big, I would give anything. After all, I believe that my purpose is to help people."
- "…let's say I become a soccer player that helps poor families. I can open up a foundation for poor people to live. I can also travel to poor places and donate clothes, shoes, and etc."
- "The reason why I want to help others when needed because I feel bad for the people that don't come close to what I have food, clean water, a house. Another thing I don't think no one deserves to be dehydrated, starving, and homeless. So I want to help in every way possible to people, not even just people animal has well. People helped me out more than one time why can't I help others and hopefully that person helps another and let the chain keep going down the road."
- "Someone would know this is my purpose because I'm involved with my church and I want to do any great thing to help."

On the coding spreadsheet:

1. Record any quotes that indicate that the most important thing to accomplish that the student mentions is motivated by *beyond-the-self reasons*. This can include quotes that you have already recorded for accomplishment/action reasons in Pass 3, as well as any additional quotes. If no quotes about beyond-the-self motivations exist, record "N/A."
    a. Code 1 under "**Beyond-the-self Idea of Purpose**" if the essay has mention of beyond-the-self reasons, or 0 if the essay does not mention beyond-the-self reasons.

References

Damon, W., Menon, J., & Cotton Bronk, K. (2003). The development of purpose during adolescence. *Applied Developmental Science, 7*(3), 119-128.

Malin, H., Reilly, T. S., Yeager, D., Moran, S., Andrews, M., Bundick, M., & Damon, W. (2008). *Youth purpose project: Interview coding process for forms of purpose determination.* Stanford, CA.

FAQ

1. **Q:** What if the student's essay mentions more than one goal or accomplishment?

   A: You would still code 1, under the column "**Purpose Intention (Y = 1, N = 0)**". This is a binary coding scheme, meaning that there are only 2 options for coding – 1 for yes if it is mentioned, or 0 for no if it is not mentioned. As long as a purpose intention is mentioned, (even if there are multiple cases), you would code 1.

2. **Q:** Is it possible for a student to have a code of 1 (Yes) for purpose intention, and also a code of 1 (Yes) for being unsure of, or not knowing one's purpose?

   A: Yes, this is possible. There are some essays where students both state that they are not certain about their purpose and are still looking for it, and yet still offer a goal or accomplishment they would like to achieve. In this case, you would assign a code of 1 for both columns.

3. **Q:** (*In reference to current and future action*) – what is an example of a mental thing being stated concretely?

   A: This is when a student explicitly performs a stated mental act. Examples of this can include thinking, memorizing, or reflecting on something.

4. **Q:** Could any quotes being used twice if they mention multiple things from different passes? Or would we just divide up the quote?

   A: You can divide up the quote, adding the part that makes sense to the appropriate section, and adding ellipses "…" between sections of quotes; however, if the same quote is appropriate for more than one section, you can definitely use the same quotes twice.

5. **Q:** What distinguishes Accomplishment reasons in Pass 3 with beyond-the-self reasons in Pass 4? Could you use the same quotes for both?

   A: You can definitely use accomplishment reasons as evidence for if a student's purpose is beyond-the-self, but you can also use other quotes in pass 4 to determine this – for example, you can use the quote with the student's stated purpose itself, or the students' current or future actions. If appropriate, you can use the same quotes from other sections to determine the "beyond-the-self" section.