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On the conflation of purpose and meaning in life: A qualitative study of high school and college student conceptions

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ABSTRACT

A minimal amount of information is known about how adolescents and emerging adults construe purpose and meaning in life, leaving many researchers to assume youth think about these constructs consistent with scientific understandings. In this preregistered study, we compared adolescent and emerging adult conceptions of purpose and meaning using directed content analysis. High school and college students were randomly assigned to write about purpose, meaning, or a control topic. Themes mentioned within the written samples did not significantly differ across purpose and meaning conditions, and this pattern did not significantly vary between adolescents and emerging adults. However, many who wrote about meaning mentioned purpose explicitly, suggesting nuanced differentiation. These findings can inform how purpose and meaning are studied and the development of future interventions.

Perspectives on purpose and meaning in life have shifted from age-old questions regarding their philosophical and essential nature to contemporary questions about their functional roles in the everyday lives of youth (see, e.g., Damon, Menon, & Bronk, 2003). Despite long-standing interest from scholars across a broad array of disciplines, a minimal amount is known about youth conceptions of purpose and meaning. How do youth define and think about these terms? Do most adolescents and emerging adults hold purpose and meaning to be synonymous, or are they viewed as semantically distinct terms with unique applications? Clear from the literature to date is that having a sense of purpose or meaning in life is beneficial, but growing empirical evidence suggests that specific predictors and correlates of each may differ (e.g., George & Park, 2013). Thus, a better understanding of how youth construe these terms is needed, as simply asking individuals to report on their "purpose" or "meaning" may lead to imprecise conclusions regarding what exactly is beneficial about engaging with either.

The value of lay conceptions in improving the empirical study of psychological topics has been emphasized in research on other important, yet illusive, constructs. Exemplars appear across literature on gratitude and indebtedness (Lambert, Graham, & Fincham, 2009); human attributions and dispositions (Chiu, Hong, & Dweck, 1997; Dweck, Chiu, & Hong, 1995); nostalgia (Hepper, Ritchie, Sedikides, & Wildschut, 2012); happiness (López-Pérez, Sánchez, & Gummerum, 2016); race (Sanchez, Young, & Pauker, 2015; Williams & Eberhardt, 2008); and intelligence, creativity, and wisdom (Blackwell, Trzesniewski, & Dweck, 2007; Sternberg, 1985). These contributions have granted profound insight into their respective topics, paving the way for policy change and advancements in intervention (e.g., Rattan, Savani, Chugh, & Dweck, 2015). Obtaining clarity with regard to lay conceptions of purpose and meaning may be of great consequence to adolescents and emerging adults, as both have been increasingly targeted by interventions designed to promote growth, engagement, recovery, and well-being (e.g., Bronk & Mangan, 2016; Burrow, Agans, & Rainone, 2018; Cheng, Hasche, Huang, & Su, 2015; Edgar-Bailey & Kress, 2010; Yeager et al., 2014). In doing so, the field may be better positioned to draw upon these psychological assets to encourage healthy adolescent and emerging adult development (e.g., Benson, 1997; Benson, Scales, & Syvertsen, 2011; Bronk, 2014; Mayseless & Keren, 2014).

In this study, we sought to understand how adolescents and emerging adults define what it means to have a sense of purpose or meaning in life.

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Specifically, we investigated whether lay conceptions of purpose and meaning correspond with the nuanced points of overlap and divergence depicted within the research literature. Moreover, we considered developmental context, exploring whether conceptualizations of purpose and meaning differ between adolescents and emerging adults. The significance of this study is that it will provide insight into whether similar or distinct themes emerge when young people are asked to articulate their ideas about purpose and meaning. Findings from this endeavor will lay needed groundwork for more informed study, development, and application of interventions that target these developmental assets.

On the conflation and distinction of purpose and meaning in life

In his seminal work describing psychological strengths necessary for surviving the heinous conditions of Nazi concentration camps, Frankl (1959/1963) identified the empowering role of meaning in life. However, in his writings, Frankl used purpose and meaning interchangeably, exemplifying a common and longstanding conflation of these terms (for discussions, see, Damon et al., 2003; Hill, Burrow, Sumner, & Young, 2015). In many studies since Frankl, purpose and meaning have been applied in overlapping ways (e.g., Bundick, 2011; Krause, 2009; Steger, Frazier, Oishi, & Kaler, 2006; Stillman et al., 2009). For instance, Reker and Wong (1988) conclude meaning results from the understanding of one's purpose. For others, purpose is a component of existential meaning (e.g., Baumeister, 1991; George & Park, 2016, 2017; MacKenzie & Baumeister, 2014; Martela & Steger, 2016; Morgan & Farsides, 2009; Reker, Peacock, & Wong, 1987), motivated by the same source and working together to serve the same end (Proulx, Markman, & Lindberg, 2013). However, others view an intricate bidirectional association between purpose and meaning, with meaning initially providing the foundation for the development of purpose, and then a mature sense of purpose driving the location of comprehensive meaning (McKnight & Kashdan, 2009; Ryff, 1989).

Given the apparent lack of consensus in the literature about the association between, and distinguishing characteristics of, purpose and meaning, one method for drawing a clearer understanding of these terms is to consider the variety of ways in which each has been defined. Across several definitions, making sense of one's existence and viewing one's life as significant arise as hallmark features of meaning (e.g., Baumeister, 1991; Baumeister & Vohs, 2002; Heintzelman & King, 2014; Yalom, 1980). For many, meaning involves the tendency to sense order and see connections in one's life, feel that one matters, and perceive that life is fulfilling, important, and worthwhile (Battista & Almond, 1973; Crumbaugh & Maholick, 1964; George & Park, 2017; Reker, 2000; Steger, 2009). Some researchers have added that meaning involves the construction of a coherent life narrative (Kenyon, 2000), a transcendence of self (Seligman, 2002), the ability to make peace with past events (Krause, 2004), a sense of belonging (Lambert et al., 2013), and spirituality or religiosity (George & Park, 2013; Pargament, 1997; Steger & Frazier, 2005). Together, having a sense of meaning is thought to ward off a state of existence that "seems incoherent, fragmented, and unclear" (George & Park, 2016, p. 206).

As a point of distinction, purpose in life is thought to involve goal-directed action that may not always be evident in notions of meaning alone. Ryff (1989), for example, suggests that purpose symbolizes a collection of goals that give life a clear direction. Stemming from this definition, McKnight and Kashdan (2009) consider purpose to be a self-regulatory, overarching life aim that promotes the organization of goals and motivates one to achieve them. Similarly, MacKenzie and Baumeister (2014) suggest that purpose serves as a goal-based phenomenon that can connect one's current ventures to their future activities and desired states. These volitional, goal-directed views have prompted theorists to describe purposeful individuals as those with "an enthusiasm for the future" (George & Park, 2013; p. 371), with purpose seeming to engender hope, optimism, vitality, life engagement, and personal agency (e.g., Bronk, Hill, Lapsley, Talib, & Finch, 2009; Burrow, O'Dell, & Hill, 2010; Hill, Burrow, & Sumner, 2013; Scheier et al., 2006). However, it is worth noting that working agentically toward the future may not be entirely sufficient to qualify as "purposeful" action. For some researchers, purpose necessarily entails a beyond-the-self component. That is, possessing a purpose means that individuals should report an intention to accomplish things that are not only valuable to the self, but also capable of influencing the world around them (e.g., Damon et al., 2003; Malin et al., 2008; Moran, 2009; Quinn, 2017). Corroborating these features, Hill, Burrow, O'Dell, and Thornton (2010) inspected adolescent definitions of purpose for the presence of select themes derived from the literature. Across 229 samples, adolescents most often associated purpose with a sense of direction (mentioned in 83% of

responses), the experience of happiness (52%), and prosociality (26%). While nominated as arenas that can inform purpose (see Crandall & Rasmussen, 1975; Hill & Cardador, 2015), religion (18%), and financial/occupational goals (17%) were mentioned fairly infrequently.

Although there is conceptual overlap between purpose and meaning, several empirical distinctions point to the inappropriateness of using these terms interchangeably. First, some measures include items assessing purpose and meaning and appear to distinguish between the two. Krause (2004) decomposed his measure of meaning into four related dimensions that harbor themes found across both the purpose and meaning literatures: having goals, values, a sense of purpose, and the ability to make sense of past life events. Likewise, in developing the Multidimensional Existential Meaning Scale, George and Park (2017) demonstrated that purpose can be separated from other meaning-related concepts, namely, comprehension and mattering. Moreover, Costin and Vignoles (2019) also found that purpose can be parsed from coherence and existential mattering in developing an acquiescence-free measure of perceived meaning in life.

Second, when measured discretely, factors that correlate with or give rise to a sense of purpose do not always appear to share analogous relations with meaning. In a one-year longitudinal study of cancer survivors, George and Park (2013) demonstrated that Time 2 purpose was uniquely predicted by Time 1 interpersonal support, optimism, pessimism, stressful life experiences, and goal violations, whereas Time 2 meaning was uniquely predicted by Time 1 religiousness and spirituality. After controlling for the variance associated with purpose, meaning also remained a unique cross-sectional predictor of posttraumatic growth. In yet another example, Costin and Vignoles (2019) found that only existential mattering emerged as a significant prospective predictor of perceived meaning in life; purpose and coherence did not. Furthermore, purpose and meaning appear to diverge in terms of their developmental trajectories. Sense of purpose tends to decline in older adulthood (e.g., Pinquart, 2002), whereas the presence of meaning tends to rise (e.g., Steger, Oishi, & Kashdan, 2009). Together, these findings suggest purpose and meaning are not reducible to one another because they appear to have unique correlates and vary differentially across the lifespan.

Finally, it is important to note that purpose and meaning have occupied different spheres in the empirical literature. Different teams of researchers have traditionally studied either purpose or meaning, and within different populations. Furthermore, these constructs have been targeted separately in interventions. For example, purpose in life is commonly found within positive youth development literature (e.g., Benson, 1997; Benson et al., 2011), whereas meaning-making and meaning in life are more frequently discussed within the context of trauma intervention (e.g., Edgar-Bailey & Kress, 2010; Vos, 2016), social processes (e.g., belongingness and exclusion; Lambert et al., 2013; Stillman et al., 2009, Williams & Nida, 2011), and cognitive shifts in response to the environment (e.g., the Meaning Maintenance Model; Heine, Proulx, & Vohs, 2006). Bolstering this point, Hill, Allemand, and Burrow (2018) demonstrated that "purpose" and "meaning" are paired with many thematically overlapping, but also many different, words in a search of English websites and books. Indeed, to say that "United States soccer star, Megan Rapinoe, struck her penalty kick *with purpose*" makes sense. To say that "United States soccer star, Megan Rapinoe, struck her penalty kick *with meaning*" does not convey the same idea. When considering this evidence as a whole, it appears purpose and meaning are not only used differently in language, but developmentalists tend to gravitate toward the former, and the latter seems to have gained more traction among clinical and social psychologists.

We conclude this section by summarizing the fine points of distinction between purpose and meaning we have located. In short, the terms are not interchangeable because they have been described differently in the empirical literature; can be separated from one another on the basis of measurement; appear to have differential correlates; and have been investigated and applied in different ways. From this review, it seems purpose involves a prospective, directive, and potentially prosocial intentionality, whereas meaning may be more closely associated with perceived coherence and comprehension, religiousness or spirituality, and feelings of significance. These distinctions have motivated unique types of basic science questions and practical applications. In the current research, we focus specifically on purpose and meaning as they have been applied to youth populations in an effort to highlight the developmental benefits of intervening on these assets early in the lifespan.

Implications of purpose and meaning for adolescents and emerging adults

Resolving what it means to have purpose or meaning in life can be difficult. Thus, it is reasonable to suspect

that sophisticated cognitive abilities, like thinking hypothetically, might be necessary in order to make sense of one's purpose or meaning. Several advancements in cognitive, affective, and neurological development take place during the second and third decades of life (e.g., Steinberg, 2005; Veroude, Jolles, Croiset, & Krabbendam, 2013), leading many to believe that adolescence and emerging adulthood are the developmental phases where individuals start to think about abstract concepts like purpose and meaning (e.g., Damon et al., 2003). If true, considering how these constructs have been applied to, and function within, adolescents and emerging adults is important. Not only do these periods represent critical junctures in the formation of purpose and meaning, but honing these assets early in life may initiate positive developmental cascades (e.g., Ratner & Burrow, 2019). Furthermore, much of the research suggesting empirical distinctions between purpose and meaning has been conducted with samples consisting of emerging adults and beyond (e.g., Costin & Vignoles, 2019; George & Park, 2013). Examining whether differences emerge among late adolescents and emerging adults may help to advance an understanding of *when* people start to distinguish between terms. Gaining perspective on how adolescents and emerging adults conceptualize these terms may illuminate the mechanisms that connect purpose and meaning to the health and developmental benefits described in the following sections. These insights could be used to construct more developmentally-sensitive and precise interventions.

In a sample of adolescents, Burrow et al. (2010) found that committing to a sense of purpose was correlated with greater agency and positive emotions. Furthermore, purpose may offer youth a protective buffer by attenuating the negative outcomes associated with poverty (Machell, Disabato, & Kashdan, 2016), bolstering personal motivation and a sense of contribution (Damon, 1995; Damon et al., 2003), and facilitating identity development (Bronk, 2011). The literature is replete with examples such as these, positioning purpose as a psychological resource for adolescents (see Benson, 1997; Benson et al., 2011; Bronk, 2014). Thus, it is unsurprising that purpose has been utilized as an intervention tool for bolstering adolescent engagement with important life domains. For instance, Yeager and his colleagues (2014) demonstrated that a one-time intervention to promote purposeful, prosocial motives for learning could lead to students' sustained self-regulation, a deeper engagement with learning, and better grades in math and science. In another example, Burrow et al. (2018) tested how purpose could be leveraged to combat age-related declines in psychological engagement within the context of a prominent out-of-school youth development program. Psychological engagement, the hypothesized mechanism that ties youth participation in out-of-school programs to positive outcomes (Weiss, Little, & Bouffard, 2005), was defined in terms of its cognitive (e.g., "I think about this activity even when I'm not doing it"), affective (e.g., "It would be very hard to give up this activity"), and relational/spiritual (e.g., "This activity helps me connect to something greater than myself") components (see Ramey et al., 2015). Older adolescents who were explicitly asked to write about their purpose in life and how it could be used to help other people or the world reported significantly greater engagement with a subsequent program activity. Purpose, then, may be one tool that applied researchers and practitioners could use to attenuate normative age-related declines in youth program engagement (Weiss et al., 2005).

With respect to emerging adults, purpose has been associated with higher social well-being (Hill, Sumner, & Burrow, 2014), more grit (Hill, Burrow, & Bronk, 2016), and a stronger sense of achieved adult status (Hill, Edmonds, Peterson, Luyckx, & Andrews, 2016). One reason may be that purposeful individuals can draw upon their internalized sense of direction to make stronger identity commitments (Burrow & Hill, 2011; Hill & Burrow, 2012) and navigate individuation processes (Côté, 1997, 2002). Purpose may also be used as a source of resilience to overcome challenges. In a study by Burrow, Hill, and Sumner (2016), emerging adults estimated the degree of incline of slopes and the effort required to ascend them. While steeper slopes were generally thought to require more effort to climb, individuals who briefly wrote about their purpose in life showed a weaker association between perceived steepness and the effort thought needed to climb them. Thus, a close look at how purpose interventions have been designed for, and implemented with, adolescents and emerging adults reveals researchers' clear attempts to draw upon purpose's prospective, actionable, directive, and prosocial features.

Empirical studies have also documented the positive implications meaning can have for adolescent well-being. In childhood and early adolescence, meaning has been found to be positively related to life satisfaction, positive affective balance, and better socioemotional functioning (Shoshani & Russo-Netzer, 2017). Moreover, adolescents who report greater meaning tend to exhibit lower levels of suicidal ideation (e.g., Henry et al., 2014), healthier

Table 1. Core themes for coding and hypotheses.

Theme	Example criteria	Preregistered hypotheses
Direction	Goal-setting; intentionality; a path on which to head	P > M > C
Prosociality	Explicit mention of having an impact on others or the world	P > M > C
Motivation	Action-oriented; Fuel or push toward something; promotes engagement with activities	P and M > C
Identity	Who one is or who one wants to be; related to self-reflection	P and M > C
Means for well-being	Instrumentality toward physical or mental health (bidirectional)	P and M > C
Social connectedness	Relatedness or proximity to others; promotes belonging	P and M > C
Coherence/ Understanding	Life makes sense; there are patterns to be understood within a broader picture	M > P > C
Significance	Life has reason; existence is not trivial	M > P > C
Spirituality	Religion, God, belief in higher power; Transcendence of self	M > P > C
Future Orientation	Evidence of prospective thought; planning	P > M and C
Present Orientation	Discussion of events and ideas in-the-moment or happening in very close temporal proximity	P and M > C
Past Orientation	Evidence of retrospective thought; remembering	C > P and M[a]

Notes: P = Purpose; M = Meaning; C = Control. Registration: https://osf.io/ukfhw.
[a]Control is hypothesized to be higher than both purpose and meaning in the past orientation theme because we explicitly asked questions about homework in the last 24 hours for the control prompt. The substantive information differs due to purpose and meaning.

eating behaviors, and more physical activity (Brassai, Piko, & Steger, 2011, 2015). Beyond these basic associations between meaning and adaptation, meaning-making has been featured in interventions to help youth overcome adverse life circumstances. Among children and adolescents grappling with traumatic grief, the ability to integrate the trauma into a coherent life narrative through writing, storytelling, drawing, and commemoration is a powerful tool for cognitive restructuring and emotional repair (Edgar-Bailey & Kress, 2010; Neimeyer, 1999). As such, being able to "make sense" out of events, and see how they "fit into" one's life can facilitate recovery after profound loss, in addition to promoting welfare on a daily basis.

Finally, emerging adults stand to benefit from meaning in several ways. First, finding meaning can help to satisfy major developmental tasks of emerging adulthood (Arnett, 2000). Meaning shares positive reciprocal associations with identity formation (Negru-Subtirica, Pop, Luyckx, Dezutter, & Steger, 2016), and can be essential to finding love and a career path (Mayseless & Keren, 2014). Second, meaning is instrumental to emerging adult well-being. Those who perceive greater meaning tend to also report greater life satisfaction, self-esteem, positive affect, and eudaimonic well-being, and less anxiety, rule-breaking, and social aggression (Dezutter et al., 2014; To & Sung, 2017; Trevisan, Bass, Powell, & Eckerd, 2017). Furthermore, cultivating meaning is a flagship of individual- and group-based interventions for promoting psychological well-being (e.g., Cheng et al., 2015; Stoltz, Schulenberg, & Lee, 2014; Vos, 2016). Common to most of these interventions are strategies to help people unify their past, present, and future; identify significant life events; construct sense out of their life events (i.e., "meaning-make"); and improve spiritual well-being. Thus, across methods to promote meaning, themes of coherence, significance, and spirituality are prevalent.

Present study

Given that applied lifespan researchers, applied social psychologists, and practicing clinicians have drawn on purpose and meaning in different ways, a broad spectrum of researchers could benefit from increasing their understanding of if and how people distinguish these concepts. In order to explore how youth understand purpose and meaning, and whether this understanding tracks closely with the points of overlap and distinction found across empirical studies, we asked youth to write about purpose, meaning, or a control topic. Their responses were then subjected to content analysis to quantify the degree to which certain themes emerged in the course of writing. Consistent with our review of how purpose and meaning are typically discussed in the scholarly literature, we anticipated that themes of direction and prosociality would appear more often in the responses of youth asked to write about purpose, whereas themes of coherence/ understanding, spirituality, and significance would appear more often in the responses of youth asked to write about meaning (see Table 1). Furthermore, in recognition of neurological (e.g., Veroude et al., 2013), cognitive (Steinberg, 2005), contextual, and social (e.g., Arnett, 2000) differences between adolescents and emerging adults, we also explored whether youths' understanding of purpose and meaning varies as a function of developmental context. With regard to purpose, emerging adults, and college students in particular, are commonly tasked to think about their future (e.g., having to create a course schedule aligned with a certain life direction). Moreover, among 14 to 19-year-olds, brain activity associated with making choices for immediate versus future outcomes becomes more differentiated with age (Banich et al.,

2013) and, among 10 to 30-year-olds, younger adolescents tend to show a weakened orientation toward the future than older counterparts (Steinberg et al., 2009). Due to differences in future orientation and neural connectivity, there is reason to suspect that high school and college students may differ in their conceptualizations of a prospective construct like purpose. Moreover, evidence that meaning is associated with a developmental construct like identity formation (Negru-Subtirica et al., 2016) and distinct profiles of emerging adulthood (Dezutter et al., 2014) motivate our examination of differences in how high school and college student define meaning in life. Delineating how adolescents and emerging adults understand purpose and meaning, and how these understandings may vary by developmental context, provides crucial insight for tailoring future interventions aimed at fostering optimal youth development.

Method

Participants and procedure

High school ($n = 72$) and college students ($n = 88$) were recruited from two public high schools and one college in the Northeastern United States. Participants' ages ranged from 16 to 24 years (High school: $M_{age} = 16.78$, $SD_{age} = 0.63$; College: $M_{age} = 20.08$, $SD_{age} = 1.18$). The sample comprised 113 (70.6%) females and 47 (29.4%) males. Among the sample, 11.3% ($n = 18$) reported they were of Hispanic ethnicity. Insofar as the racial composition of the sample, 55.6% ($n = 89$) identified as White/Caucasian; 25.6% ($n = 41$) identified as Asian or Pacific Islander; 8.8% ($n = 14$) identified as Black/African-American; 0.6% ($n = 1$) identified as American Indian, Aleut, or Eskimo; 3.1% ($n = 5$) reported some other racial identifier; 5.0% ($n = 8$) identified as being multiracial; and 1.3% ($n = 2$) of the sample did not disclose their race.

Data for this study were derived from a longer, seven-day study about everyday experiences and feelings. This longer study was approved by the [REDACTED] University Institutional Review Board. College students were recruited from a university-wide online research subject recruitment system. For the recruitment of adolescents, teachers at participating high schools read students an announcement for a research study and provided interested students with a link to register. High school students under the age of 18 years were required to return parental consent forms to complete enrollment. After enrollment, all high school students were sent Qualtrics links to the survey via email every day for one week. On the first online page of the Day 1 survey, high school students 17 years and under with parental consent viewed an electronic youth assent form. All participants 18 years and older viewed a consent form.

On every other day of the study, participants were asked to write about one of three topics: Purpose in life ($n = 49$), meaning in life ($n = 52$), or their homework (control; $n = 58$), to which they were randomly assigned (one participant was not assigned due to drop-out). For this study, Day 1 writing samples were chosen for coding in order to identify participants' initial understanding of the terms and to mitigate practice effects that could result from repeated inquiry. The prompts for each of the conditions were modeled after established reflection exercises (e.g., Bundick, 2011; Burrow et al., 2016; Burrow & Hill, 2013; King, 2001), and their designs are consistent with colloquial usage of "purpose" and "meaning" (Hill et al., 2018). Participants were asked to think about and write on the prompt for at least 5 minutes. Participants could not advance the survey until a 5-minute period had elapsed. The participants in the purpose condition (high school $n = 23$; college $n = 27$) were given the following prompt:

> Please take a few minutes to think about what it means to have a "purpose in life." When you are ready, we would like you to spend 10 minutes responding to the following questions by typing in the box provided. Please be as thorough as you can. A notice will appear on your screen when 10 minutes are up.

1. What does it mean to have a sense of purpose in life?
2. Is it possible for everyone to have a purpose in life?
3. Do you know what your purpose in life is?
   a. If yes, where did this purpose come from?
   b. If no, where do you think your purpose will come from?

Participants in the meaning condition (high school $n = 25$; college $n = 27$) responded to the following prompt:

> Please take a few minutes to think about what it means for your life to have "meaning." When you are ready, we would like you to spend 10 minutes responding to the following questions by typing in the box provided. Please be as thorough as you can. A notice will appear on your screen when 10 minutes are up.

1. What does it mean for your life to have meaning?
2. Do you think it's possible for everyone to find meaning in their life?

3. Do you think your life has meaning?
   a. If yes, where does this sense of meaning come from?
   b. If no, where do you think meaning in life will come from?

Finally, participants assigned to the control condition (high school $n = 25$; college $n = 33$) were asked to write about their homework using the following prompt:

> Please take a few minutes to think about what school work you've had in the past 24 hours. When you are ready, we would like you to spend 10 minutes responding to the following questions by typing in the box provided. Please be as thorough as you can.

1. What school work have you done in the past 24 hours?
2. Do you think your peers did the same amount of school work in the past 24 hours as you did?
3. Did you accomplish all of the school work you needed to?
   a. If yes, how difficult was it to accomplish?
   b. If no, how difficult will it be to accomplish?

Participants were excluded from analyses if they did not include text in their writing sample to the Day 1 survey ($n = 5$). Cases were also excluded if they were a member of the control group at the first high school survey location ($n = 4$), as these individuals were given a different control prompt unrelated to the current hypotheses. This decision was made before analyses were conducted, and a full disclosure can be found within the amendments of our supplemental repository ([LINK REDACTED FOR BLIND REVIEW]). After these cases were removed, a total of 151 cases were available for analysis (Control: high school $n = 20$, college $n = 33$; Purpose: high school $n = 21$, college $n = 25$; Meaning: high school $n = 25$, college $n = 27$).

Qualitative coding

Code development

Directed content analysis (Hsieh & Shannon, 2005) was used to analyze writing responses. This deductive method involves developing codes derived from theory and building a thematic codebook prior to data analysis. Coders then sift through text responses for the defined codes but remain open to creating new codes should the need arise. Through an extensive literature review, our research team first identified numerous components of purpose and meaning. The components of purpose and meaning were then grouped into conceptually-similar clusters to form broader themes that could be identified in the writing samples. An initial list of seven themes was then sent to several experts in the field for feedback regarding coverage.[1] One expert suggested adding the theme, "identity," to detect when purpose or meaning helped one to feel unique and develop a stronger sense of who he or she is. An expert also suggested parsing one of our initial themes into two, "social connectedness" and "prosociality," to distinguish between people who identified significant others as being key to their sense of purpose or meaning, but did not communicate any intention to effect change in the world around them. As a result of this consultation, we settled on coding along nine distinguishable themes: direction, prosociality, coherence/understanding, significance, spirituality, motivation, identity, means for well-being, and social connectedness. In addition to these conceptual themes, writing samples were coded for the presence of three temporal orientations: future-, present-, and past-oriented thought. Finally, during the coding process, coders were encouraged to share with the research team any uncategorized themes that emerged from the writing samples; however, no concepts necessitating a new theme were suggested. Example criteria for the final list of coding categories can be found in Table 1.

Hand-coded data

The first part of the qualitative analysis involved the coding of the writing samples by six trained research assistants. Each research assistant was given the writing data from the Day 1 survey, and coders were asked to evaluate the responses for the presence of themes. Writing samples were evaluated as a whole, rather than question-by-question, because (a) many participants did not number their responses and (b) we did not want to miss potential themes within a response that might be elicited by some parts of the prompt more than others. Due to their highly abstract nature, each research assistant scored each writing sample on a discrete scale from 0 to 2 for every theme: "No presence" was indicated by a score of 0; a "slight, but not clear" presence was indicated by a score of 1; and a "very clear" presence was indicated by a score of 2. The coders did not consult one another during the coding period except within team meetings, where general questions about the coding were discussed and case-specific questions were avoided. Coders were blind to

[1]Experts were selected on the basis of our personal connections to other authors known to publish research on purpose and meaning in life.

the participants' assigned writing condition and their status as a high school or college student. Once the six research assistants finished coding, their ratings were averaged together (c.f., Hill et al., 2010; Silvia et al., 2008). Thus, each participant received a single composite score for each of the nine themes and three temporal orientations.[2]

Since each writing sample was evaluated for the presence of the nine thematic categories and three temporal orientations by six judges, an average measure intraclass correlation coefficient ($ICC_{average}$) was calculated to summarize the coders' reliability under the discrete coding system (0-2). Although the judges' ratings were ultimately averaged for our main confirmatory tests, ICC was calculated to gain a sense for baseline agreement among the judges. First, single measure ICC was calculated using a multi-rating, absolute-agreement, two-way random effects model. A Spearman-Brown correction was then applied to the single measure ICC to obtain the average measure ICC for each of the variables. With the exception of the "present orientation," coders demonstrated moderate to excellent reliability (Koo & Li, 2016): Direction ($ICC_{average} = .89$), prosociality ($ICC_{average} = .96$), motivation ($ICC_{average} = .86$), well-being ($ICC_{average} = .94$), identity ($ICC_{average} = .87$), social connectedness ($ICC_{average} = .81$), coherence/understanding ($ICC_{average} = .66$), significance ($ICC_{average} = .84$), spirituality ($ICC_{average} = .95$), future orientation ($ICC_{average} = .56$), present orientation ($ICC_{average} = .20$), past orientation ($ICC_{average} = .91$). While the average measure ICC for the present orientation theme was surprisingly low, Koo and Li (2016) list many factors that could contribute to suppression. Of greatest relevance, low ICC often is a symptom of low variability in the data (e.g., most cases demonstrate a high degree of present orientation). Indeed, across nearly all cells, the present orientation theme demonstrated one of the highest mean scores ($M = 1.46$) coupled with one of the lowest standard deviations ($SD = .29$; see Table 2).

Linguistic Inquiry and Word Count (LIWC) software data

Data for this study were also analyzed through the use of Linguistic Inquiry and Word Count software (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015). The purpose of LIWC is to analyze participants' writing samples and categorize the language used by comparing written words to those present in LIWC's internal default dictionary, an approach akin to summative content analysis (Hsieh & Shannon, 2005). LIWC's internal default dictionary allows for the categorization of written words across a broad range of linguistic identifiers including positive and negative affect, pronoun usage, and tense (i.e., future, past, and present). LIWC produces the percentage of each LIWC category within the given text. For the purposes of the present study, the research team and two supervised research assistants also created a custom dictionary containing words that might indicate the presence of purpose, meaning, and any of the nine themes (available on our repository: https://osf.io/x9q6n/). The dictionary was built based on author input, a review of relevant literature, and blinded Day 3 writing samples. Day 1 samples were processed in LIWC through both the internal default dictionary (to explore temporal orientations) and the custom dictionary (to explore the nine themes).

Analytic strategy

As previously described, we used a deductive qualitative strategy, directed content analysis (Hsieh & Shannon, 2005), to summarize our textual data. However, we primarily relied upon quantitative methods to draw inferences about the relation of identified themes to writing condition and developmental context. This is known as *crossover analysis* (Small, 2011), whereby "qualitative data are analyzed primarily through formal, mathematical, or statistical techniques" (p. 72). As a whole, our choices in analytic strategy reflect the positivist orientation from which this research is derived.

Our approach to testing the hypothesized associations between themes and writing conditions (see Table 1) were preregistered on the Open Science Framework (OSF; https://osf.io/ukfhw). Tests of the main effect of developmental context and the interaction of developmental context with writing condition were also planned and preregistered *a priori*, but no specific hypotheses about these effects were articulated. Therefore, these planned tests were exploratory in nature. All unregistered exploratory tests were explicitly labeled as such, and subjected to a conservative alpha-level adjustment. To provide greater insight into the participants' responses, we also include two

[2]Although coders were blinded to condition assignment, participants had a tendency to repeat the prompt in their response (e.g., "To have a purpose in life means … "). While it is possible that coders developed beliefs about condition assignments, they had no way to confirm their suspicions. It is difficult to determine if or how these suspicions biased ratings, but averaging over the ratings of six coders allowed us to average over the coders' potential biases as well.

Table 2. Descriptive statistics of hand-coded and LIWC data.

	Hand-coded				LIWC			
	Control *M*(*SD*)	Purpose *M*(*SD*)	Meaning *M*(*SD*)	Total *M*(*SD*)	Control *M*(*SD*)	Purpose *M*(*SD*)	Meaning *M*(*SD*)	Total *M*(*SD*)
Direction								
High school	.13(.07)	1.10(.70)	.94(.74)	.74(.72)	3.51(2.25)	2.16(2.31)	2.10(1.96)	2.66(2.26)
College	.18(.06)	1.08(.65)	1.17(.73)	.76(.71)	3.70(2.21)	1.75(1.87)	1.46(1.31)	2.23(2.03)
Total	.16(.07)	1.09(.66)	1.06(.66)	.75(.71)	3.58(2.21)	1.97(2.11)	1.79(1.69)	2.47(2.16)
Prosocial								
High school	.04(.13)	.67(.80)	.47(.68)	.40(.66)	.15(.36)	1.40(.1.69)	1.57(1.45)	.96(1.39)
College	.01(.03)	.78(.88)	.83(.89)	.49(.79)	.47(.80)	1.36(1.50)	1.78(1.74)	1.25(1.52)
Total	.02(.08)	.73(.84)	.65(.81)	.45(.73)	.27(.58)	1.38(1.59)	1.67(1.58)	1.09(1.45)
Motivation								
High school	.04(.07)	.74(.54)	1.12(.67)	.67(.67)	3.51(2.25)	4.06(2.10)	3.22(2.26)	3.58(2.21)
College	.05(.08)	.84(.62)	.91(.60)	.56(.62)	3.89(2.56)	2.93(2.67)	3.67(3.55)	3.50(2.99)
Total	.05(.08)	.79(.58)	1.01(.63)	.61(.65)	3.65(2.35)	3.54(2.42)	3.44(2.93)	3.54(2.57)
Well-being								
High school	.00(.00)	.71(.73)	.77(.79)	.52(.72)	2.38(1.57)	1.97(2.05)	1.35(1.32)	1.93(1.69)
College	.01(.03)	.58(.77)	.70(.80)	.40(.68)	3.07(2.39)	1.07(1.49)	2.01(3.64)	2.03(2.81)
Total	.00(.02)	.64(.74)	.74(.79)	.45(.70)	2.64(1.93)	1.55(1.85)	1.67(2.69)	1.97(2.24)
Identity								
High school	.02(.05)	.82(.58)	.71(.48)	.53(.56)	2.60(1.76)	2.80(2.28)	2.42(1.54)	2.60(1.85)
College	.03(.10)	.83(.59)	.91(.62)	.54(.63)	3.55(2.62)	1.85(1.60)	2.53(1.91)	2.62(2.14)
Total	.03(.08)	.82(.58)	.81(.56)	.54(.60)	2.95(2.15)	2.37(2.04)	2.47(1.71)	2.61(1.98)
SC								
High school	.62(.12)	.75(.70)	1.12(.77)	.85(.65)	.08(.27)	1.36(1.68)	1.74(1.48)	.99(1.43)
College	.53(.24)	.88(.87)	1.11(.75)	.82(.69)	.38(.74)	1.43(1.61)	2.03(2.15)	1.34(1.77)
Total	.56(.21)	.82(.79)	1.12(.76)	.83(.67)	.19(.51)	1.39(1.63)	1.88(1.82)	1.14(1.61)
CU								
High school	.00(.00)	.53(.44)	.51(.39)	.36(.42)	1.32(1.43)	2.87(2.57)	2.39(1.47)	2.11(1.94)
College	.00(.00)	.52(.40)	.55(.36)	.33(39)	.92(1.28)	1.79(1.60)	2.60(2.60)	1.83(2.06)
Total	.00(.00)	.53(.41)	.53(.37)	.34(.40)	1.17(1.37)	2.37(2.22)	2.49(2.07)	2.00(2.00)
Significance								
High school	.00(.00)	.69(.71)	1.00(.56)	.60(.67)	3.71(2.43)	4.85(3.17)	4.20(2.60)	4.20(2.73)
College	.00(.00)	.64(.58)	.67(.45)	.40(.51)	4.23(2.74)	3.55(2.37)	4.11(2.56)	3.96(2.53)
Total	.00(.00)	.66(.63)	.83(.53)	.49(.59)	3.91(2.54)	4.25(2.88)	4.15(2.56)	4.10(2.64)
Spirituality								
High school	.00(.00)	.37(.67)	.51(.78)	.31(.64)	.22(.57)	1.72(1.79)	1.80(1.62)	1.16(1.56)
College	.01(.06)	.40(.73)	.54(.77)	.29(.63)	.35(.72)	1.43(1.84)	1.67(1.90)	1.19(1.69)
Total	.01(.05)	.39(.70)	.53(.77)	.30(.63)	.27(.63)	1.59(1.80)	1.73(1.74)	1.17(1.61
Future								
High school	.46(.52)	.97(.38)	1.03(.48)	.84(.52)	1.21(1.48)	1.13(1.42)	1.23(1.42)	1.20(1.42)
College	.45(.49)	.83(.44)	.75(.32)	.66(.45)	1.10(1.28)	1.33(1.24)	.88(1.10)	1.09(1.20)
Total	.46(.50)	.89(.41)	.88(.42)	.74(.49)	1.17(1.39)	1.22(1.33)	1.06(1.28)	1.15(1.33)
Present								
High school	1.29(.32)	1.54(.26)	1.59(.17)	1.48(.28)	9.13(3.06)	15.30(4.71)	15.56(2.85)	12.99(4.69)
College	1.17(.27)	1.62(.16)	1.63(.13)	1.45(.30)	11.74(5.02)	16.78(3.92)	16.05(3.75)	14.98(4.69)
Total	1.21(.29)	1.58(.22)	1.61(.15)	1.46(.29)	10.12(4.08)	15.98(4.38)	15.80(3.29)	13.86(4.78)
Past								
High school	1.83(.38)	.29(.42)	.32(.39)	.77(.81)	8.38(4.24)	.66(.85)	.62(1.14)	3.64(4.67)
College	1.76(.38)	.43(.53)	.33(.39)	.91(.80)	6.14(2.37)	1.41(2.35)	.55(.98)	2.52(3.10)
Total	1.79(.38)	.36(.48)	.32(.38)	.85(.81)	7.53(3.78)	1.00(1.72)	.59(1.06)	3.15(4.09)
Word Count								
High school	91.70(58.52)	104.19(84.43)	120.84(59.73)	106.71(68.26)	85.67(46.61)	97.12(57.61)	111.67(53.40)	97.29(52.71)
College	84.00(46.29)	95.60(57.88)	110.33(52.98)	95.78(52.58)	93.70(59.15)	104.76(84.26)	118.36(60.97)	106.56(68.45)
Total	86.91(50.84)	99.52(70.53)	115.38(56.02)	100.56(59.98)	88.70(51.29)	100.61(70.29	114.88(56.70)	101.34(60.06)
Total Themes								
High school	2.20(.52)	5.67(2.50)	6.52(1.92)	4.94(2.61)				
College	2.18(.58)	5.92(2.45)	6.26(2.43)	4.58(2.71)				
Total	2.19(.56)	5.80(2.45)	6.38(2.18)	4.74(2.67)				

Notes: LIWC = Linguistic Inquiry and Word Count; CU = Coherence/understanding; SC = Social Connectedness. To interpret LIWC columns, please note that values represent percentages of the writing sample characterized by the given category.

illustrative cases to display our findings in greater detail. The OSF project repository (https://osf.io/x9q6n/) is publicly accessible, linked to the study's preregistration, and contains materials necessary for replicating and expounding upon the present study. Out of respect for participants' privacy, however, the full raw narrative dataset and coded data are only available upon request.

Results

Descriptive statistics and counts

All analyses using the hand-coded data were performed in R (Version 3.3.3; R Core Team, 2017), whereas the analyses of LIWC data were performed in SPSS Version 24. Descriptive statistics of all hand-coded and LIWC data can be found in Table 2.

Table 3. Correlation matrix of hand-coded categories.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Word Count	–											
2. Direction	.36**	–										
3. Prosocial	.32**	.34**	–									
4. Motivation	.40**	.66**	.22**	–								
5. Well-being	.30**	.43**	.10	.43**	–							
6. Identity	.40**	.52**	.33**	.50**	.35**	–						
7. Social connectedness	.39**	.34**	.48**	.28**	.23**	.34**	–					
8. Coherence/Understanding	.43**	.40**	.42**	.49**	.26**	.55**	.39**	–				
9. Significance	.27**	.25**	.33**	.58**	.25**	.43**	.19*	.59**	–			
10. Spirituality	.05	.14	.11	.18*	.02	.17*	.12	.26**	.47**	–		
11. Future	.43**	.48**	.29**	.46**	.23**	.38**	.22**	.34**	.36**	.10	–	
12. Present	.34**	.40**	.31**	.52**	.34**	.50**	.32**	.49**	.48**	.27**	.33**	–
13. Past	.06	−.47**	−.23**	−.52**	−.37**	−.49**	−.08	−.38**	−.47**	−.29**	−.29**	−.51**

Notes:
*$p < .05$.
**$p < .01$.

In order to provide data regarding counts of the hand-coded themes, we temporarily dichotomized ratings such that scores of 1 or 2 were combined to indicate presence of a theme. If at least half the raters agreed that a given theme was present, the response was coded for the presence of the theme overall. A little less than half the sample mentioned direction (43.05%), motivation (40.40%), identity (41.72%), and social connectedness (40.40%) in their response. Similarly, evidence of future- (46.36%), present- (97.35%), and past-oriented (44.37%) thought was prevalent. Themes of prosociality (25.17%), well-being (25.83%), coherence/understanding (23.18%), and perceived significance (29.80%) were less common, but still popular. The least frequent theme to appear in the writing samples was spirituality, occurring in less than one in every six responses (15.89%).

Confirmatory testing on preregistered analyses

All analyses concerning thematic emergence were conducted using the average of judges' ratings under the discrete coding structure (0–2). First, to assess the general association between the variables, a correlation matrix of the hand-coded data was constructed (see Table 3). Many significant associations were observed among the variables; however, no association was high enough to warrant concerns about multicollinearity (highest $r = .66$, between direction and motivation). As such, we decided to continue with the analyses as planned, with nine thematic categories and three temporal orientations.

Second, a one-way Multivariate Analysis of Variance (MANOVA) was conducted to test whether the presence of the themes and temporal orientations varied as a function of writing condition. As preregistered, all associations in this test were evaluated at the traditional threshold of $p \leq .05$. The overall multivariate test for the effect of condition was significant, Wilks' $\Lambda = .09$, $F(24, 274) = 26.99$, $p < .001$. A series of univariate ANOVAs and subsequent pairwise comparison tests using Tukey's HSD were then conducted to evaluate our preregistered hypotheses (see Table 1). With only two exceptions, all dependent variables followed a similar pattern whereby purpose and meaning conditions did not differ in evidence of the category (all ps $> .07$), but contained more evidence than control (all ps $< .005$). Indeed, this trend sustained for the direction ($F[2, 148] = 44.58$, $p < .001$), prosociality ($F[2, 148] = 17.61$, $p < .001$), motivation ($F[2, 148] = 54.92$, $p < .001$), well-being ($F[2, 148] = 21.49$, $p < .001$), identity ($F[2, 148] = 50.25$, $p < .001$), coherence/understanding ($F[2, 148] = 48.12$, $p < .001$), significance ($F[2, 148] = 45.75$, $p < .001$), and spirituality ($F[2, 148] = 10.81$, $p < .001$) thematic categories, as well as for the future ($F[2, 148] = 15.98$, $p < .001$) and present ($F[2, 148] = 48.18$, $p < .001$) temporal orientations. Past orientation and social connectedness were the only categories to deviate from this pattern. Within the past orientation ($F[2, 148] = 210.68$, $p < .001$), purpose and meaning conditions did not differ ($p = .900$); however, both purpose ($p < .001$) and meaning ($p < .001$) conditions evidenced less past-oriented thought than control. Within the social connectedness theme, an overall main effect of condition was observed ($F[2, 148] = 10.06$, $p < .001$) and, like other themes, social connectedness was higher in the meaning condition than control ($p < .001$), and purpose and meaning did not differ ($p = .062$). However, for social connectedness alone, purpose did not differ significantly from control ($p = .103$).

Finally, the planned exploratory 2 × 3 (Developmental Context × Writing Condition) MANOVA was conducted to test whether the effect of condition was significantly moderated by status as a high school or college

Table 4. Examples of conceptual themes from student writing samples.

Theme	Purpose examples	Meaning examples
Direction	*For your life to have purpose means that you have specific goals to accomplish.* Male, 18, High school	*To have meaning I think means to have a clear purpose, goal, mission in life.* Female, 22, College
Prosociality	*My purpose is to also influence others in a positive way.* Female, 16, High school	*… that life has to have somehow positively impacted the rest of the world. It could be a huge impact, like the president of the US or the creator of a major invention or a cure for cancer, or it could be almost negligibly small. I think for life to have meaning, the world would have been somehow different without it.* Female, 20, College
Motivation	*I guess having a purpose in life means that you have something in your life that inspires you, motivates you, and keeps you going.* Female, 20, College	*Life meaning means having something worth waking up for and feeling you have responsibility and duty in your life.* Female, 20, College
Identity	*A purpose helps you be who you want to be.* Female, 16, High school	*I think having meanings for my life give a sense of self and purpose of life.* Female, 19, College
Well-being	*If you are unhappy with your life and dissatisfied with where you are or what you are doing, you are more likely to believe that you haven't found our purpose yet.* Female, 21, College	*If a person can see that they have meaning in life, it builds their character in a way which will help them work at being a better person educationally and socially.* Male, 16, High school
Social Connectedness	*[Your purpose] doesn't always have to be career related, in fact, it can be family or society-oriented but it's understanding that you have an impact on the world and the people around you.* Female, 19, College	*Whether it is our family, friends, animals, art, beauty, or logic we each try to create a relationship that fortifies our place with the world. This is where a sense of meaning comes from. The things that sustain us are also vitally interconnected in the world, e.g. food, water, and shelter and so we on an emotional sense try to connect ourselves n the same way.* Female, 17, High school
Coherence/Understanding	*If my life has purpose that means that there's a reason behind the things that I do, the behaviors I adopt, the decisions I make, the people and causes I invest my time in. And that reason is a unifying, consistent theme rather than haphazard whim.* Female, 20, College	*You are doing the things that bring you happiness and more understanding of the world.* Female, 18, College
Significance	*Purpose comes from feeling as if your existence has meaning and not that you were placed on earth to live and die.* Male, 17, High school	*It means that I have been put upon this Earth for a reason and I must fulfill that reason.* Male, 16, High school
Spirituality	*For me purpose of life is to follow Gods plan.* Female, 17, High school	*I think the meaning of life lies with a belief in both God and his Son. I don't know what I would do, everyday I'm grounded by the fact that there is a better place than this earth we are on. Instead of worrying about the little things I focus my attention on Him.* Female, 17, High school

Notes: Sentences were allowed to satisfy multiple themes simultaneously. Spelling typos have not been corrected. Examples were selected by having the coders pick their favorite examples, or by viewing the data and seeing which cases had the highest average scores on a given theme. Examples here reflect only excerpts from responses.

student. An adjusted alpha level of .017 (.05/3) was used to evaluate the significance of the three predictors (writing condition, developmental context, and the interaction term). Although the main effect for condition sustained (Wilks' $\Lambda = .09$, $F[24, 268] = 26.79$, $p < .001$), the main effect for developmental context (Wilks' $\Lambda = .90$, $F[12, 134] = 1.29$, $p = .230$) and the interaction of developmental context with writing condition (Wilks' $\Lambda = .82$, $F[24, 268] = 1.16$, $p = .274$) did not emerge as significant.

Illustrative cases: Murad and Moira

As can be seen in Table 4, examples of each theme coded in this study could be readily identified across both the purpose and meaning conditions. While Table 4 displays rather "pure" illustrations of each theme, throughout the course of coding, we noticed that youth often provided complex and varied ideas that communicated several themes at once. For example, Murad (pseudonym), a 17-year-old high school student assigned to the purpose condition, draws upon his personal experiences to describe what it means to have a sense of purpose in life (misspellings, grammatical mistakes, and original punctuation retained in excerpt; full response not shown):

> For one's life to have a purpose is when he or she feels that her or his being on earth can impact the world in some way, that you can do something … This isn't necessarily a purpose, but I was going through a depression some time ago, each

> week I looked forward to the pretzels they sold aftr school only on Fridays. that's not a purpose, but that was my weekly bench mark. I'll do as best as I can and i'll make it to Friday to earn that pretzel. Everyone is able to find their task to earn their "pretzel."

Murad begins by defining purpose as something that enables you to "do something" (intentionality, direction) that "can impact the world in some way" (this was coded under our theme of prosociality, although we recognize that this statement is neutral). Murad uses his experiences of looking forward to pretzels after school on Fridays to capture purpose's prospective and motivational features. Moreover, having this "weekly benchmark" was something that inspired him to keep pushing forward when he was depressed, highlighting that purpose can help one to keep his or her head above water under difficult life circumstances (a means for well-being). He goes on to describe purpose as personalized by stating that everyone can "find *their* task and earn *their* 'pretzel'" (identity; emphases added). To this point, Murad has not mentioned any hypothesized meaning features in his discussion of purpose. However, later in the response, Murad's conceptualization begins to diversify:

> Everyone can find a purpose n life … It may not be big, or nice, or even any task at all … but everyone does something. I think a sense of purpose is derived from within. I've been raised on certain values, held to expectations, and other standards that have been imposed, stories, lessons, experiences, they all feed into yourself. Everything you touch becomes a part of you, and you a part of t. Everything feeds into you, and this will influence you to want to do one thing or another.

Themes of social connectedness and identity are apparent in the manifest content of Murad's writing and, underlying this text, we argue he also communicates significance and coherence/understanding. Murad describes how others impart important messages throughout life (social connectedness), and states their teachings "feed into" who you are and what you want to do (identity). Insofar as significance is concerned, Murad notes that not all purposes are grand or even positive in nature. However, he seems confident that "everyone does something" that qualitatively stands out to the individual, even if it is not "big." Significance is also apparent when Murad says that people and things leave lasting, non-trivial impressions on one another. In addition to significance, coherence/understanding is apparent in this portion of his response. Murad's message is that all of one's experiences and relationships come together to form a coherent pattern, and purpose may have something to do with understanding how these seemingly disparate forces unite to influence a person.

Moira (pseudonym), on the other hand, is a 19-year-old college student assigned to write about meaning. Interestingly, the first half of Moira's response almost exclusively features themes traditionally believed to be a part of purpose:

> For my life to have meaning, I have to be sure about what I want to do. I have to have a sense of fulfillment after doing whatever it is I was meant to do. I hopefully will feel happy and satisfied with whatever I am doing. I have to wake up each day witha sense of purpose and a drive to succeed and complete my tasks. I basically have to have things (social interactions, plans, work) that will keep my busy, but not to the point where I am exhausted and questioning why I am doing whatever it is I am doing.

In saying that meaning implies being certain about what she wants to do, Moira communicates intentionality. She continues by explicitly stating that to have meaning, she must have a sense of purpose that makes her feel happy, drives her to see her commitments through, and helps her keep "busy" tasks in perspective. In these statements, we see themes of well-being, direction, and motivation. Furthermore, her response provides insight into how youth may distinguish purpose and meaning by discussing their relation to one another: although she was asked to write about meaning, Moira spends considerable time describing purpose and its functions. From her response, it would appear that Moira views purpose as being instrumental to meaning.

In the second half of Moira's response, themes we hypothesized would be unique to meaning begin to emerge:

> I think it's possible for everyone to find meaning, but in order to find it, one must be willing to constantly reflect on one's actions and how one feels about the world around them. Meaning comes once you realize you have a greater purpose in life than smply, for example, doing well in school or making a lot of money. Once you can look at the bigger picture and know (or possibly accept) your role in society/in your community/in your household, then you will probably be a lot more satisfied with the way yur life is going.

Coherence/understanding is communicated in Moira's response, between her advice to engage in self-reflection to find meaning and to "look at the bigger picture" to feel more satisfied with life. Significance is also apparent in her description of a "greater purpose," a sense that she elevates and

characterizes as different from the other types of goals people may pursue. Additionally, when Moira says that meaning comes from knowing one's purpose, our suspicion that Moira views purpose as being instrumental to meaning is reinforced. Finally, Moira's case exemplifies the necessity to split our themes of "prosociality" and "social connectedness" into different categories. While Moira appears to understand the importance of social connectedness in saying that meaning is related to recognizing one's role in his or her social network, it is less clear that she believes meaning involves affecting others.

Exemplars such as Murad and Moira illustrate the colorful and nuanced ways youth think about purpose and meaning and their relation to one another. Despite being assigned to different conditions, both cases evidenced features that cut across the purpose and meaning literatures. This pattern was common across the dataset. In fact, very few cases suggested that purpose and meaning could be differentiated on the basis of thematic emergence alone. Although both Murad and Moira displayed a number of overlapping themes, Moira is much more explicit about the connection between purpose and meaning. She uses both terms in her response and says at one point that "meaning comes from realizing you have a greater purpose in life." Sentences like these suggest youth do not view these terms as synonymous, but that purpose and meaning are deeply connected to one another. Intrigued, we investigated this formally through a series of exploratory tests.

Unregistered exploratory analyses

As exploratory analyses, the purpose of this section is to probe the data for suggestive trends that may help us better understand the aforementioned results and generate hypotheses for future inquiry. Due to the number of exploratory tests performed, we adopted a conservative significance threshold of $p \leq .001$ and applied it unilaterally across these analyses. We first probed the data based on the trends we observed in the way participants used the terms "purpose" and "meaning" in relation to one another. We then explored the role of word count within the context of our main effects of interest using the hand-coded data. Finally, in an effort to triangulate the hand-coded results, we repeated our confirmatory testing using the LIWC-derived data.

First, in ways similar to Moira, we found that many participants across the dataset paired the terms "purpose" and "meaning" together. For example:

> I believe that a sense of purpose in life is physically found. People spend their whole lives searching for "the meaning of life." In my opinion, that meaning will come when least expected. It will come when you are not looking for it. Everyone has a purpose. Everyone has a reason as to why they were put on this earth. No one is "irrelevant." (16, female, high school, purpose condition)

> I believe that the concept of life having meaning means simply for an individual to feel they have a purpose. (17, female, high school, meaning condition)

To investigate this trend further, we questioned how often participants (a) used both terms in their response, as in the first example, and (b) used purpose and meaning to explicitly define each other, as in the second example. Furthermore, we wondered to what extent these occurrences depended upon developmental context and writing condition. To tackle these questions, five new raters were recruited and trained. Raters scored responses by indicating presence (1) or absence (0) of the criterion at hand. For the first research question, presence was indicated if both words were used in the response and it was clear that the participant was using "purpose" or "meaning" to refer to "purpose in life" or "meaning in life," respectively. For the second question regarding whether one term was being used to define the other, raters were told to focus on the specific verbiage in the sentence. Raters were told to code it as presence if it was clear that the participant was saying one term was part of the definition of the other. Raters were not blind to condition assignment in order to ensure they were paying attention to the desired usages of the terms, rather than their use in other forms (e.g., using the word meaning in repetition of the prompt of "what does it mean…"). Raters demonstrated excellent reliability regarding whether both purpose and meaning were referred to in the same response (Fleiss' $\kappa = .92$) and substantial reliability regarding whether one term was explicitly used to define the other (Fleiss' $\kappa = .80$). Given this rather high agreement, a majority system was utilized for analysis: participants receiving at least 3/5 presence votes from the rating team were marked as a positive case for the criterion in question. Because the terms "purpose" and "meaning" never occurred in the same response in the control condition, tests of independence outlined below were conducted only on those in the purpose and meaning conditions ($n = 98$).

A total of 21.74% ($n = 10$) and 46.15% ($n = 24$) of individuals in the purpose and meaning conditions, respectively, used both terms in their response. The chi-square test for the effect of condition was not

significant at our more conservative threshold ($\chi^2[1] = 5.39$, $p = .020$), indicating that the tendency to use the terms "purpose" and "meaning" in the same response was not related to condition assignment. With regard to developmental context, 28.85% ($n = 15$) of college students and 41.30% ($n = 19$) of high school students used purpose and meaning within the same response. The chi-square test for developmental context, however, was not significant ($\chi^2[1] = 1.17$, $p = .280$), indicating that propensity to use both terms in the same response was not related to developmental context.

A total of 10.86% ($n = 5$) and 40.38% ($n = 21$) of individuals in the purpose and meaning conditions, respectively, were judged to use one term to explicitly define the other term. The chi-square test examining the effect of condition did not meet our adjusted threshold for significance, $\chi^2(1) = 9.45$, $p = .002$. Still, because of how closely this test trended toward significance at our adjusted alpha level, we examined the residuals of this chi-square test for more details. Using a threshold of +/− 1.96, we found that using meaning to define purpose occurred at less than expected frequency ($z = -2.06$), and using purpose to define meaning occurred near the uppermost bounds of expected frequency ($z = 1.94$). With regard to developmental context, 25.00% ($n = 13$) of college students and 28.26% ($n = 13$) of high school students were judged to use the terms to define each other. This tendency, however, was not significantly related to developmental context ($\chi^2[1] = 0.02$, $p = .892$). Synthesizing the counts of these two sets of chi-square tests, among those who mentioned both purpose and meaning in their response ($n = 34$), 76.47% ($n = 26$) of responses were judged to be using one term to define the other.

Second, to address the possibility that youth in certain conditions or developmental contexts might produce more words than others, we investigated whether word count was associated with our predictors using the original hand-coded data. A 2 × 3 (Developmental Context X Writing Condition) ANOVA revealed that word count was not significantly related to condition ($p = .053$), developmental context ($p = .363$), or their interaction ($p = .993$). Still, due to the positive association between word count and many of the themes (see Table 3), readers may wish to see our results controlling for word count in order to establish whether the effects of interest persist. Indeed, even when word count was added as a predictor to the preregistered models, effects were nearly identical to those observed in the confirmatory section above (see SD1 in our supplemental repository).

Finally, in an attempt to reinforce our results, we repeated our preregistered 2 x 3 (Developmental Context × Writing Condition) MANOVA using LIWC-derived data. The multivariate effect of writing condition was again significant, Wilks' $\Lambda = 0.19$, $F(26, 266) = 13.45$, $p < .001$. Purpose and meaning were again distinguishable from control on the presence of several themes and temporal orientations ($ps < .001$): direction, prosociality, coherence/understanding, spirituality, social connectedness, past orientation, and present orientation. Among the dependent variables with a significant main effect of condition, pairwise comparison tests revealed that purpose and meaning were, again, indistinguishable ($ps > .2$). No significant differences were found for well-being, identity, motivation, significance, and future orientation themes, or word count (all $ps > .01$). Multivariate effects for developmental context and the interaction of developmental context and condition were not found. Our supplemental repository contains a full explanation of this exploratory testing (SD2) and a correlation matrix of LIWC-derived data (ST1).

General discussion

Until now, it was unknown whether lay conceptions of purpose and meaning differ, to what extent this differentiation varies across development, or if these understandings mirror empirical definitions. This study was an attempt to qualitatively investigate how adolescents and emerging adults understand and distinguish between the concepts of purpose and meaning in life. Across tests, we did not find evidence of differences between purpose and meaning on conceptual themes derived from literature. Furthermore, conceptual overlap was apparent in the illustrative cases of Murad and Moira. In some ways, failing to find evidence of a strong distinction between terms is encouraging. As researchers frequently use "purpose" and "meaning" interchangeably within the available literature, and many popular scales use one term to measure the other, strong evidence for lay distinctions between them would call into question decades of existing work on these topics.

Still, despite lack of evidence for a strong distinction between constructs, this study supports the possibility that purpose and meaning are distinguishable in the minds of youth. This distinction, however, may be highly nuanced. During the process of coding, we found that over one-third of participants who wrote

about either purpose or meaning mentioned both terms in their response. One indicator that people distinguish between terms is using them in proximity to one another (Hill et al., 2018). While there are other reasonable interpretations, participants' use of both terms in their response suggests they may perceive subtle differences between purpose and meaning, even if these differences are not evident in the themes we measured in this study. Furthermore, while many participants used purpose to define meaning, very few participants used meaning to define purpose. An example of this is seen in the illustrative case of Moira, leading us to wonder whether hierarchical theories that position purpose as a subcomponent of meaning (e.g., George & Park, 2016, 2017; Martela & Steger, 2016) are closely aligned with lay conceptions of these phenomena. One possible rationale is that living a purposeful life is one path to deriving meaning (Crescioni & Baumeister, 2013), leading individuals to mention purpose more when discussing meaning than vice versa. Given these findings, experimentally targeting purpose (e.g., having youth write about their purpose in life; c.f., Burrow et al., 2016) could be one way to foster greater purpose *and* meaning. Given the frequency with which youth discussed purpose in their notions of meaning, purpose may be more accessible to youth than other potential routes to meaning.

Implications for the study and application of purpose and meaning

These findings inform the development and utilization of instruments designed for explorations of purpose and meaning in youth populations (see, e.g., Burrow et al., 2018). Our results raise two major questions for researchers to consider further. First, if lay conceptions of purpose and meaning are conceptually overlapping, what can this reveal about the way researchers study these senses and build interventions? Second, how can the nuanced differences between purpose and meaning be better teased apart to improve the identification of targets for intervention?

Toward the former, we probed for participants' "sense of" purpose and meaning, an approach consistent with self-report measures that also capture this "sense of" dimension by asking participants explicitly the extent to which their lives feel "meaningful" or "purposeful" (e.g., "I have a good sense of what makes my life meaningful"; Steger et al., 2006). It is also consistent with studies that ask young people to write about their "purpose in life" (e.g., Burrow et al., 2016; 2018). Interpreting the results of these studies relies on an assumption that participants' construal of "purpose" and "meaning" are consistent with that of researchers. Standing in contrast, other work investigating the presence and correlates of these terms circumvents this potential mismatch by operationally defining the term based on a set of criteria and looking for the evidence of these criteria in a participant's response (e.g., Bronk, Finch, & Talib, 2010). In such studies, "purpose" and "meaning" are measured and can be interpreted in a way consistent with the study definition, regardless of how a participant construes it. The lack of evidence for thematic distinctions between purpose and meaning, then, seems to most seriously impact those who study purpose and meaning with the "sense of" approach. To be clear, one method of measurement is not more accurate than the other. The findings of this study, however, provide an opportunity to raise construal slippage as a concern for researchers to consider in the interpretation and implementation of their findings. It remains to be seen whether purpose or meaning, or "sense of" purpose or meaning, have differential impacts on the positive health and developmental outcomes previously reviewed. Is there value in building interventions that try to specifically target purpose or meaning, as defined by the researcher, or is it sufficient to simply promote a participant's "sense of" these constructs? If it is the latter, then the current study findings should come as a positive for the work done by most "sense of" interventions tested thus far. However, if it is the former, interventionists need to apply the current findings in the context of developing tools that go beyond assuming participants are inferring the same constructs as researchers. Our findings highlight the significance of asking this question at all. A study investigating the value of "sense of" purpose or meaning versus presence as marked by their operational definitions would shape the development of future strength-based interventions. The target of intervention shifts depending on the results.

Continuing with this first major question about how lack of evidence for thematic distinctions informs research and intervention on purpose and meaning, a possible next step is to consider the extent to which the purpose literature may be able to borrow from the meaning literature and vice-versa to shape interventions and outcomes. For example, if Burrow et al. (2018) had asked youth to "write about their meaning in life" instead, would it be reasonable to expect similar increases in 4-H activity engagement following the writing prompt? Our findings might motivate a

researcher to predict so. However, given that purpose and meaning have points of empirical and theoretical divergence, it would be reasonable to investigate whether asking youth to write about meaning in life relates to a different response to program activities that could not be elicited by asking participants to write about purpose. For example, belongingness has been most often manipulated and studied within the context of meaning (e.g., Lambert et al., 2013; Stillman et al., 2009). Perhaps adding an explicit focus on meaning to Burrow and colleagues' 4-H purpose writing intervention could reinforce other positive youth development constructs that are targeted in 4-H programing, like connection or caring (Lerner et al., 2005). Although this study failed to find evidence of thematic differences across purpose and meaning responses, it is a large leap to assume that these terms lead to the same outcomes in the course of intervention on the basis of our results alone. Addressing how much the thematic overlap affects the outcomes observed in intervention studies remains an endeavor for future research. This study provides rationale for its pursuit.

Although the current findings did not provide evidence that youth differentiate between purpose and meaning thematically, their nuanced understanding of these terms evidenced in the exploratory tests challenges the field to develop better ways to assess these fine-grained differences. Doing so would lend itself to a greater understanding of their unique contributions. This represents the second major question raised as a result of this study, and we see many paths forward. First, it is worth considering whether the extent of overlap is moderated by individual differences. One factor that may modify youth's understanding of purpose and meaning is whether they actually feel their lives are purposeful or meaningful. While many adolescents and young adults possess the potential to develop senses of purpose and meaning, some work suggests that only around 23% of late adolescents evidence purpose (Bronk et al., 2010). It stands to reason that deeper engagement with purpose or meaning may enhance respondents' ability to define and distinguish the constructs. Future work might examine if felt strength of purpose and meaning moderates the effects examined in this study, as those with stronger commitment to these senses may provide responses that more closely align with expert definitions. Moreover, future research may seek a broader age range to establish if conceptions of purpose and meaning vary with higher contrast between developmental contexts. Throughout this article, we have referred to our groups as "adolescents" and "emerging adults;" however, we recognize that these labels may not imply true developmental stage differences (see Côté, 2014). Research using starker distinctions between age groups could grant clearer insight into how cognitive maturity, social changes, or the accumulation of life experiences influences purpose and meaning conceptualizations.

Second, it is important to consider how task demands influence the extent of overlap between conceptualizations of purpose and meaning. For instance, researchers should follow up this study by asking participants to describe one term without the other, compare and contrast purpose and meaning explicitly, or simply define both terms. Prompting with both terms could inspire participants to think of purpose and meaning in more distinguishable ways. Future studies could also compare centrality ratings for identified features of purpose and meaning (c.f., Lambert et al., 2009), or could employ a card sort task wherein participants must decide whether a given feature is more like purpose or more like meaning. Other studies could examine how thematic overlap varies between prompts that ask participants to (a) define purpose or meaning in life, (b) discuss the extent to which their lives feel "purposeful" or "meaningful," and/or (c) articulate the content of their purpose or meaning. Because this study took an inclusive approach (i.e., coding all questions in the prompt as a single response), it is difficult to discern whether the probes differentially related to thematic overlap. It is possible that some prompts might encourage participants to write about purpose and meaning in more distinguishable ways. Comparing the results of these studies would help to establish how research paradigms for studying the relation of purpose to meaning influence how youth report on their understandings of these terms.

Third, researchers might consider how analytic choices for examining differences between purpose and meaning lead to certain conclusions about their degree of overlap. This study primarily relied on deductive quantitative methods to infer thematic emergence across text responses. In the future, however, researchers may explore the same questions of this study with an inductive qualitative approach instead (e.g., conventional content analysis; Hsieh & Shannon, 2005). Using inductive strategies would allow for the testing of, and expansion upon, results presented here. Indeed, it would be interesting to see if these same conclusions are reached when themes are derived from the writing samples themselves.

In terms of quantitative alternatives, few studies have explicitly set out to test for differences between purpose and meaning with regard to their predictors and correlates (e.g., George & Park, 2013), and our findings highlight the need for more attention in this area. Future endeavors would be wise to take advantage of complex models that can accommodate nuance. Bifactor analysis (Reise, 2012), for example, is a relatively easy-to-use structural equation modeling technique that can parse out the influences of two or more conceptually similar constructs. In bifactor analysis, individual factors and an overlapping factor, representing the shared variance among constructs, predict an outcome simultaneously. By modeling the overlapping factor, the unique contribution of each individual factor can be seen more clearly. Provided that purpose and meaning seem to share many overlapping features in the minds of youth, bifactor analysis could be useful in identifying their unique concurrent and longitudinal correlates, as well as the mechanisms underlying these associations. Such findings would have numerous implications for positive psychological interventions, as they would help the field structure interventions for, and based on, these senses with greater precision.

Limitations and conclusion

Noting limitations, there are many ways that future research can improve upon this study and continue to pursue the research questions we have posed. First, the use of a rather small sample leaves the inferences drawn vulnerable to issues that may arise from lack of statistical power. While the sample was quite large for a qualitative study and the main analyses testing the effect of writing condition were adequately powered to detect a medium effect,[3] it remains possible that the true difference between conditions is smaller. As such, it will be up to future research to replicate the present study to see if our findings sustain in larger samples. A second limitation of this study is a possible lack of generalizability. For example, the emerging adult sample was drawn from college students attending a selective institution. These findings cannot speak to whether purpose and meaning are more differentiated among non-college-attending emerging adults or college-attending emerging adults who attend a less competitive school. Although past efforts have failed to find evidence of differences in purpose levels across adults with varying levels of education, education may be related to the ways in which people orient themselves to purpose development (Sumner, 2017). Perhaps construal of, and differentiation between, purpose and meaning varies with education as well. We encourage the replication of this study in diverse populations to examine the extent to which these findings are common across different types of contexts.

In conclusion, our findings demonstrating the conceptual closeness of purpose and meaning in the minds of youth will motivate and inform the way future basic-science and intervention-based studies are designed, interpreted, and implemented. Understanding lay conceptions has led to advancements in the study and application of other psychological concepts, and we expect this type of research to confer similar benefits to purpose and meaning. Through the replication and expansion of this work, greater clarity regarding lay conceptions of purpose and meaning may be found, and the unique benefits that each offer to youth development may be better understood.

[3]We conducted a sensitivity analysis with G*Power version 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009). Sample size was fixed to 151, alpha was fixed to .05, and power was fixed to .80. For an omnibus one-way analysis of variance (ANOVA) testing the main effect of condition (number of groups = 3), an effect as small as $f = .255$ could be reliably detected. An effect size of $f = .255$ corresponds to what Cohen, (1988) labeled a "medium effect." A sensitivity analysis for a one-way ANOVA was employed because this is the tool used to test each of the hypotheses listed in Table 1.

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Raw participant responses available upon request. Codebooks, analysis script, and registration materials can be found via our repository, https://osf.io/x9q6n/.

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