Purpose and coping with adversity: A repeated measures, mixed-methods study with young adolescents

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ABSTRACT

Introduction: Purpose in life is associated with positive outcomes following adversity, but the mechanisms of this relationship are unclear. In this repeated measures, mixed-methods study, we examined the relationship of purpose to coping with adversity among young adolescents.
Methods: A sample of 1357 adolescents completed a survey about purpose, negative life events, and positive reframing coping four times at six month intervals. A sub-sample of 91 survey respondents participated in an interview. Surveys were analyzed using fixed-effects and mixed-effects modeling to test the relationship between purpose and coping over time. Interviews were analyzed for purpose, adversity, and coping to understand this relationship as perceived by the participant.
Results: Survey results indicate that purpose and positive reframing coping are related and change together over time. Interview results suggest that purpose can be a response to negative experiences.
Conclusions: There are likely underlying factors or processes driving the relationship between purpose and positive reframing coping. Some of the potential underlying factors and processes are discussed.

1. Introduction

Adolescents too often experience adversity that can negatively impact their developmental progress. About 45% of children and adolescents in the US have experienced at least one adverse childhood experience (ACE), such as parental divorce, abuse, and poverty (Child and Adolescent Health Measurement Initiative , 2016–2017(CAHMI)). Young people exposed to more of these adverse circumstances are at increased risk of lifelong psychological, health, and academic challenges, such as repeating a grade, depression, and substance abuse (Anda et al., 2006; CAHMI, 2013). Fortunately, many young people are resilient in the face of adversity and can minimize the negative consequences of these events (Alim et al., 2008; Bethell, Newacheck, Hawes, & Halfon, 2014). One factor that consistently correlates with positive outcomes in studies of adversity is purpose in life (e.g., Isaacs et al., 2016; Schaefer et al., 2013). These studies reveal the promise of purpose to promote resilience, but they leave some uncertainty about the mechanisms underlying this process. The present study aims to contribute to the growing body of research on purpose and adversity outcomes by examining purpose and coping among young adolescents.

1.1. Purpose in adolescence

Adolescence is an important time for identity formation during which young people develop their personal values and important goals for the future (Erikson, 1968). In healthy identity formation, adolescents shape their core values and act in accord with these values to become the kind of person they want to be. Purpose describes the goals people pursue to enact their core values. We define purpose as commitment to an intention that is personally meaningful and of consequence in the world beyond the self (Damon, Menon, & Bronk, 2003). It is a higher-order aspiration that organizes goals, drives behaviors, and gives a sense of direction in life (Damon, 2008; Mcknight & Kashdan, 2009; Ryff, 1989). If identity comprises the values, beliefs, goals, and social roles that describe who we are; purpose aligns our identity to needs in the world through pursuit of meaningful and self-transcendent life goals.

This construct of purpose is more specific than the widely-used *sense of purpose* construct that is measured in a survey respondents' subjective feeling that their activities, goals, and life have purpose (e.g. Ryff, 1989; Scheier et al., 2006; Steger, Frazier, Oishi, & Kaler, 2006). One of our goals with this study was to see if defining purpose specifically as commitment to a meaningful and self-transcendent goal can provide more insight into the relationship among purpose, adversity, and resilience. Throughout this paper, we refer to the construct of purpose that is measured as a subjective feeling that one's life has purpose as "sense of purpose" and we use "self-transcendent purpose" to indicate research conducted with the construct that defines purpose as commitment to a meaningful, beyond-the-self goal.

1.2. Purpose and adversity

Sense of purpose is associated with physical and psychological health in the general population (e.g., Ryff, 1989; Ryff, Singer, & Dienberg Love, 2004). Among people who have experienced adversity, a sense of purpose is associated with healthier outcomes following the negative experience. For example, prospective studies found that people who experienced trauma or negative stimuli showed better emotional recovery if they reported higher sense of purpose in a survey conducted two years prior (Isaacs et al., 2016; Schaefer et al., 2013). Another found that people who reported a greater sense of purpose just prior to boarding a train where they were in the ethnic minority showed less emotional distress from the experience than those who reported lower sense of purpose (Burrow & Hill, 2013). Thus, according to prospective research, pre-existing purpose can predict emotional recovery from adverse experiences.

Research also suggests that the relationship between purpose and adversity might work in the other direction, with purpose following from adversity. In a retrospective study, adulthood sense of purpose was not predicted by several different types of early life adversity, except the adversity of health disadvantage experienced at age 16 (Hill, Turiano, & Burrow, 2018). However, a study of purpose pathways indicated that some people find their purpose in response to significant life events (Hill, Sumner, & Burrow, 2014), and an interview study with adolescents found that self-transcendent purpose sometimes emerged in response to adverse experiences (Moran, Bundick, Malin, & Reilly, 2013). These findings suggest that purpose can result from adverse experiences, but adversity is not a reliable predictor of purpose.

1.3. Purpose and positive reframing as an approach to coping

There is clearly an association between purpose and resilience, but further investigation is needed to fully understand how they are related. It might be that the processes of making meaning and reframing life goals following adversity can lead to both resilience and purpose. Or, as suggested by studies showing that purpose predicts resilience, it might be that purpose supports adaptive emotional responses to adversity. Both theories suggest a connection between purpose and positive reframing coping (Carver, 1997). Positive reframing is an emotion-focused coping response, meaning that the aim is to reduce negative emotions and increase positive emotions following an adverse experience (Folkman & Lazarus, 1988). By finding the positive in a life stressor, individuals reduce distress resulting from the experience, enabling them to engage more proactive coping strategies and have better outcomes (e.g., Carver, Scheier, & Weintraub, 1989; Castro, Martínez, & Abarca, 2019; Stoeber & Janssen, 2011).

Further evidence suggests that the beyond-the-self dimension of self-transcendent purpose can play a role in adaptive coping and resilience following adversity. Studies have shown that altruism, social connectedness, and helping activity are associated with resilience following loss or trauma (Brown, Brown, House, & Smith, 2008; Pietrzak & Cook, 2013). A meta-analytic investigation of altruism and pro-social behavior following adversity indicates that helping others may itself be an emotion-focused approach to coping that relieves distress by improving mood, increasing sense of self-efficacy, promoting social integration, and giving life a sense of meaning (Vollhardt, 2009).

2. The present study

The present study uses a repeated measure, mixed-methods design to explore the relationship among self-transcendent purpose, adversity, and positive reframing coping in early adolescence. This study expands on prior research in several key ways. First, we used a mixed-methods approach to pair a quantitative relationship between purpose and positive reframing with a more nuanced qualitative exploration of the relationship as described in interviews. Second, we used longitudinal survey data to examine whether purpose and positive reframing vary together over time. Finally, we investigated purpose not as a "sense of purpose" as is typical of prior studies, but as a multidimensional construct in which individuals self-report their commitment to a future-directed and meaningful intention to do something to contribute to the world beyond the self.

We posed a series of research questions to probe the relationship between purpose, adversity, and positive reframing in our data. Of the survey data, we asked: Does purpose correlate with positive reframing in response to negative life events? Given the existing literature, we expected that purpose would correlate with positive reframing. Further, because previous research showed that prior purpose predicted a more adaptive emotional response to negative experiences, we expected that having purpose would indicate an increased capacity for positive reframing in response to negative experiences subsequent to purpose development. Therefore, we specifically investigated the question of how purpose relates to positive reframing over time. We then used interview data to explore the following questions: How do adolescents with purpose describe the negative events and circumstances they have experienced? And, what connections do adolescents with purpose make between their purpose and their approaches to coping with adversity?

3. Method

This study used a convergent parallel mixed-methods design (Creswell & Plano Clark, 2011). In a convergent design, qualitative and quantitative data are collected and analyzed concurrently but separately, then merged for interpretation. A convergent design is used when the goal of a mixed-methods study is to use qualitative findings to elaborate and illustrate the results of a quantitative analysis. In this study, the qualitative interviews are used to explore more deeply into the general trends revealed in the survey data.

3.1. Participants

Participants were recruited from eight middle schools located in four different regions of the United States. The first wave of data collection took place in fall of participants' eighth-grade year (T1; typically ages 13–14), during which 1357 students completed the survey (49.0% female; 25.8% Caucasian, 45.6% African American, 15.9% Latinx, 11.1% Asian American, 1.6% Multi-racial/Other; 64.5% Free/reduced Lunch). These students were invited to complete the survey again in spring of their eighth-grade year (T2, $n = 1255$), fall of their ninth-grade year (T3, $n = 1004$), and spring of their ninth-grade year (T4, $n = 952$).

From the T1 survey respondents, 91 were selected to participate in an interview following the T1 survey. At each site, school staff were asked to select a given number of interviewees (more at larger schools, fewer at the smaller schools) with the criteria of selecting students for gender balance, as well as reflecting the school population in terms of ethnicity and academic performance. The full interview sample was demographically representative of the survey sample. It was not randomly selected and is not intended to be a random or generalizable sample.

3.2. Data collection measures and procedures

The survey took an average of 30 min to complete and was administered on school computers during class time. All eighth-grade students at the participating schools were invited to take the survey and parents were offered the chance to opt their child out of participation. Over 90% of invited students completed the survey at T1. Interviews were conducted in a private room at the interviewee's school and lasted approximately 45–60 min. Parent consent forms were collected from interviewees prior to interview administration.

3.2.1. Survey measures
The survey included scales to measure the key variables in this analysis: purpose, negative life events, and positive reframing coping. We also measured positive affect and social support for coping, to control for their potential effect on the relationship between purpose and positive reframing.

3.2.2. Purpose
We developed a new instrument to assess adolescent purpose based on previous interview research (Damon, 2008; Malin, Reilly, Quinn, & Moran, 2014; Moran, 2009). The instrument first asked respondents to identify three goals that best represent their most important life goals from a given list of ten goals. The ten goals include five beyond-the-self (BTS) goals (e.g., "Improve the lives of others") and five self-oriented goals (e.g., "Live a life full of fun; " see Malin, Liauw, & Damon, 2017). Respondents then completed a 6-item scale to assess their commitment to each BTS goal they selected (e.g., "Every week, I do things to work on my goal to; " 5-points: 1 = "strongly disagree" to 5 = "strongly agree"). The purpose commitment scale was reliable for each BTS goal ($\alpha = 0.71$–0.79). For the present analysis, we created a categorical variable such that participants were categorized as "BTS dreamer" if they selected a BTS goal but their mean scale score for commitment to that goal was less than '4,' indicating that they aspired to a BTS goal but were not fully committed. Participants were categorized as "purpose" if they selected a BTS goal and their mean scale score for commitment to that goal was greater than or equal to '4.' Participants who did not select any BTS goals were categorized as "Non-purpose."

3.2.3. Negative life events
Johnson and McCutcheon's (1980) Life Events Checklist (LEC) assesses participants' exposure to negative life events. The scale includes 14 items (e.g., "Increased arguments or fights between parents?"), to which respondents indicated whether the event had occurred in the past six months.

3.2.4. Coping

Two subscales of the COPE Scale (Carver, 1997) are used in this analysis: The Positive Reframing subscale and the Social Support for Coping subscale.

3.2.4.1. Positive reframing coping. The Positive Reframing subscale measures respondents' use of positive reinterpretation in response to adversity or stress. The prompt followed the LEC and asked respondents how they deal with difficult events such as those listed in the LEC. The scale includes two items ("I've been trying to see it in a different light, to make it seem more positive" and "I've been looking for something good in what has happened."). Respondents indicated how often they used the strategy in the past month on a 5-point scale (1 = "never" to 5 = "always).

3.2.4.2. Social support for coping. Because perceived social support for coping with adverse experiences can buffer the negative impacts of those experiences (Thoits, 1995), we included the Social Support for Coping subscale to control for possible effects of perceived social supports on respondents' use of positive reframing coping. The survey included three items adapted from the COPE Scale (e.g., "I received emotional support from others"). Respondents indicated how often they used the strategy in the past month on a 5-point scale (1 = "never" to 5 = "always").

3.2.5. Positive affect

Positive affect is correlated with both purpose and better outcomes to adversity (e.g., Hill, Burrow, & Bronk, 2016; Linley & Joseph, 2004); therefore, we included a measure of positive affect to control for the potential influence of affect on coping processes. Adapted from Diener et al. (2010), the Positive Affect scale asked respondents to indicate how often they experienced each of four positive emotions (e.g., "Joyful") in the past month on a 5-point scale (1 = "never" to 5 = "always").

3.2.6. Interview protocol

The interview, adapted from the Stanford Youth Purpose Interview Protocol (Andrews et al., 2006; see Malin et al., 2014 for the full interview protocol) asked participants to discuss what is most important to them and why, their current activities, and goals for the future. The protocol did not ask about negative events or coping responses; however, these topics emerged during the interview. Some questions in the protocol were likely to elicit adverse experiences if they were salient. Specifically, adverse experiences came up when interviewees were asked to talk about the origins and motivations driving the things that were most important to them. The interview was semi-structured, allowing the interviewer to probe more deeply into the meaning of participant responses and learn more about adverse experiences that emerged.

3.3. Empirical strategy

3.3.1. Fixed-effects model

The present study used a linear two-way fixed effects model to examine the relationship between purpose and positive reframing. Specifically, we estimated the following regression specification:

$$Cope_{it} = \lambda_i + \theta_t + \beta_1 BTSDreamer_{it} + \beta_2 Purpose_{it} + X'_{it}\gamma + \varepsilon_{st} \#$$

where i represents a single respondent, t represents the timepoint, s represents each school, $Cope_{it}$ is the dependent variable (i.e., coping scores T2-T4), λ_i are respondent fixed effects, θ_t are timepoint fixed effects (T2-T4), $BTSDreamer_{it}$ is an indicator variable that takes on a value of one for each timepoint a respondent is categorized as having low commitment to a BTS goal, β_1 represents the associated change in respondents' coping score when they have low commitment to a BTS goal compared to having no purpose, $Purpose_{it}$ is an indicator variable that takes on a value of one for each timepoint a respondent is purposeful, β_2 represents the associated change in respondents' coping score when they are purposeful compared to having no purpose, and ε_{st} is an error term that accommodates for clustering at the school level (Bertrand, Duflo, & Mullainathan, 2004). X_{it} is a vector of covariates that vary within respondents over time that includes, for each respondent-timepoint observation: social support for coping, positive affect, and the natural log of the number of negative life events that occurred in the past six months.

3.3.2. Mixed-effects model

A second model was run to test whether pre-existing purpose had an effect on positive reframing with negative events that occurred after purpose was first reported. The purpose variable was lagged by one timepoint (six months), then a repeated measures mixed-effects model was run with the same covariates that were used in the fixed-effects model (social support, positive affect, and natural log of the number of negative life events that occurred in the preceding six months). Next, the non-lagged purpose variable was included in the model to control for concurrent purpose.

3.3.3. Missing data strategy

Missing data resulting from respondents not completing the survey at every timepoint ranged from 7.5% at T2 to 29.8% at T4. The data missing from variables used in this analysis were not missing completely at random (MCAR), $p > .05$ (Little, 1988). To address this issue, we used multilevel multiple imputation to get accurate estimations for missing longitudinal data (e.g., Graham, 2009; Treiman, 2014). Forty imputed datasets were computed using the chained equations approach in STATA 14 (Graham, Olchowski, & Gilreath, 2007). Visual inspections of mean and standard deviation plots confirmed that convergence was achieved for all variables

Table 1

Interview codes for presence of and response to adversity.

Code	Definition
1.1 Personally experienced adversity	A negative event or circumstance experienced directly by the interviewee *"I used to get bullied a lot, …then I used to get in trouble about getting bullied."*
1.2 Adversity experienced by other that caused concern	A negative event or circumstance experienced by someone close to the interviewee or who the interviewee might identify with in some way, or by another person that caused concern for the interviewee *"My mom, she wanted to go to college and become somebody, but she never made it 'cause she had me when she was 20."*
1.3 Experiences that might be adverse but are not described in negative terms	An event or circumstance that is not inherently negative but that might have triggered a coping response from the interviewee *"My mom is in the Middle East right now."*
2.1 Response to adversity	A response to a negative experience in the form of behavior, action, wish, feeling, or goal *"I have this Twitter …. [It's] about bullying … self-harm and suicide …. If someone's having a bad day, I would talk with them … try to cheer them up."*
2.2 Positive reframing in response to adversity	A response to a negative experience that reframes the experience in a positive way *"[I want to be a doctor because] I feel like people are getting help – not like oh, everything's horrible …. I feel like with me in there, at least there's more people to help."*
3.1 Coping Response	A coping response to a negative experience that is experienced or described explicitly as coping by the interviewee *"I don't know where [my mom] is at, but she has a mental disorder …. [It] made me see that I need to have a closer relationship with my dad."*
4.1 Connecting adversity to purpose by setting beyond-the-self goal or acting in response to adversity	The interviewee sets a beyond-the-self goal or takes action directly in response to a negative experience *"I want to … create an organization … that's kind of like a support group, so people can open up and feel like they're in a safe environment."*
4.2 Connecting purpose to adversity by using existing purpose to support coping response	Interviewee describes purpose that preceded a negative experience and helped them in coping with that experience *"[My family] are my influence …. They sorta help me because they make me wanna do it more."* (She has a sense of purpose in connecting with her family and that supports her in doing things that help her cope with adversity.)

within the 40 iterations.

3.3.4. Interview coding

Our approach to coding was grounded in qualitative content analysis methodology (Schreier, 2012). We first coded interviews to identify which participants had purpose according to their interview responses. To identify purpose in the interviews, we used 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. Interviewees were purposeful if they had an important and driving goal that was beyond-the-self motivated and took sustained and substantial actions to accomplish the goal (see Malin et al., 2017 for a full description of purpose coding and reliability testing). Using this approach, 20 of the 91 interviewees were determined to have purpose, 28 were categorized as dreamer (BTS goal but no substantial action to accomplish it).

Next, we used hypothesis coding to identify adverse experiences and instances of coping among the interviewees. Hypothesis coding is used when the researchers have an a priori list of codes based on an existing theory and want to use the codes to further investigate the theory (Miles, Huberman, & Saldaña, 2019). First, three coders searched interviews for mention of negative experiences. We then coded for any type of response to a negative event and coded separately those responses that were clearly coping. The coders met to discuss what was emerging in the interviews and refined the codes to better fit the interview data, resulting in the code set listed in Table 1. Each of the 20 purpose interviews was then coded by two coders using the revised code set. The resulting codes attained good to excellent interrater reliability (Cohen's k = 0.59 - 0.79). For codes that required 100% agreement for analysis (presence of adverse experience), coders discussed coding discrepancies to find agreement. Finally, the lead researcher coded the non-purposeful interviews.

4. Results

4.1. Survey results

4.1.1. Descriptives

Table 2 provides descriptive statistics of all variables separated by purpose category and indicates significant difference between groups based on one-way ANOVA analyses and post-hoc Bonferroni tests. Purposeful respondents reported significantly greater negative life events, social support for coping, positive affect, and positive reframing coping.

Moderate correlations ($r > 0.3$) were found between social support for coping, positive affect, and positive reframing coping. See Table 3 for the full correlation analysis. Correlations between each of these variables and the number of negative life events in the past 6 months were weak and/or non-significant. Positive reframing and purpose were positively correlated, $r = 0.232$, $p < .001$.

Table 2

Descriptive statistics for key survey variables by category of purpose.

	Purpose (45.6%)		Dreamer (38.8%)		Non-purpose (15.6%)		Range	
	Mean	SD	Mean	SD	Mean	SD	Min	Max
Negative life events	3.56[a]	0.07	3.20	0.07	3.44	0.11	1	15
Social support	3.80[b]	0.03	3.41	0.03	3.45	0.05	1	5
Positive affect	3.74[b]	0.02	3.49	0.02	3.57	0.04	1	5
Positive Reframing	3.69[b]	0.02	3.26	0.03	3.36	0.04	1	5

Note. The data used in this table include a panel of 1241 respondents observed three times (T2-T4) in six-month increments from the spring of their eighth-grade year to the spring of their ninth-grade year (N = 3723).

[a] A one-way ANOVA and Bonferroni post-hoc tests indicate the purpose group scored significantly greater than the low commit BTS goal group, $p < .01$.

[b] A one-way ANOVA and Bonferroni post-hoc tests indicate the purpose group scored significantly greater than both the low commit BTS goal group and the non-purpose group, $p < .01$.

Table 3

Correlations among key survey variables.

	1	2	3	4	5
1. Positive Reframing	–				
2. Purpose	0.23**	–			
3. Negative life events	0.03	0.07**	–		
4. Social support	0.50**	0.19**	0.03	–	
5. Positive affect	0.50**	0.17**	−0.11**	0.48**	–

Note. The data used in this table include a panel of 1241 respondents observed three times (T2-T4) in six-month increments from the spring of their eighth-grade year to the spring of their ninth-grade year (N = 3723). ** $p < .01$.

4.1.2. Fixed-effects regression results

The results of the fixed-effects regression are presented in Table 4. Model 1 shows a naïve regression specification, Model 2 shows a naïve regression specification including covariates, and Model 3 shows the linear fixed effects regression model are presented in Table 4. The results of all three models indicate a positive and significant ($p < .001$) association between purpose and positive reframing. We did not find evidence of an association between BTS dreaming and positive reframing.

Table 4

Fixed-effects model results of the effect of purpose on positive reframing coping.

	Positive Reframing Coping		
Independent variables	(1)	(2)	(3)
Dreamer	−0.08	−0.06	−0.06
	(0.05)	(0.04)	(0.04)
Purpose	0.34***	0.21***	0.19***
	(0.05)	(0.04)	(0.05)
Ln of negative life events		0.01	0.01
		(0.02)	(0.02)
Social support		0.19***	0.17***
		(0.02)	(0.01)
Positive affect		0.34***	0.32***
		(0.02)	(0.03)
Intercept	3.35***	1.51***	1.58***
	(0.04)	(0.09)	(0.11)
Covariates?	No	Yes	Yes
Respondent and time fixed effects?	No	No	Yes
Adj. R^2	0.05	0.21	0.65
N	4047	4047	4047

Note. Standard errors, clustered at the school level, are in parentheses. Respondent-level covariates include the natural log of negative life events, social support, and positive affect. The data include a panel of 1349 respondents observed three times (T2-T4) in six-month increments from the spring of their eighth-grade year to the spring of their ninth-grade year (N = 4047).

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

Table 5
Repeated measures mixed-effects model results of the effect of prior purpose on positive reframing coping.

Independent Variables	(1)	(2)
	Coping	
Intercept	1.53*** (0.09)	1.59*** (0.10)
Purpose lagged		
Dreamer	−0.02 (0.42)	−0.03 (0.04)
Purpose	0.08* (0.04)	0.03 (0.04)
Social support	0.19*** (0.017)	0.18*** (0.02)
Ln of negative life events	0.01 (0.02))	0.00 (0.02)
Positive affect	0.33*** (0.02)	0.32*** (0.02)
Current purpose		
Dreamer		−0.06 (0.04)
Purpose		0.18*** (0.05)
Controlled for current purpose	No	Yes

Note. Model includes the main effect of Time, not shown in the table.
*$p < .05$; **$p < .01$; ***$p < .001$.

4.1.3. Repeated measures mixed-effects results

The mixed-effects model with the main effect of lagged purpose (1) showed a statistically significant but very small effect on positive reframing. When controlled for current purpose (2), the effect of pre-existing purpose became non-significant. The full results are provided in Table 5.

4.2. Interview analysis: personal adversity as a catalyst for purpose development

4.2.1. Who discussed negative experiences in the interview?

Among the purposeful interviewees, just over half ($n = 12$ of 20) described a personal negative experience such as parental divorce, death of a parent, or bullying. Interviewees who did not have purpose were less likely to talk about negative experiences during the interview. Those without purpose but with at least one meaningful beyond-the-self (BTS) goal ("dreamers," $n = 28$) were more likely to describe a negative experience ($n = 12$) than those who did not have BTS goals ($n = 42$, of which only six talked about a negative experience). Of the 12 dreamers who described a negative experience, half ($n = 6$) responded to the experience by setting a BTS goal for the future but did not act on the goal. Others ($n = 3$) took minimal action in response to the experience, such as trying to be well-behaved for their struggling parents.

Fifteen interviewees were pursuing personally meaningful goals that were not BTS motivated, but only two of these described a negative experience. Neither made connections between these experiences and their important life goals. Overall, interviewees were much more likely to discuss negative experiences if they had at least one BTS goal.

4.2.2. Relationship between purpose and coping

Of the 12 purposeful interviewees who experienced adversity, nine described a connection between their negative experience and their purpose, either by setting a goal to contribute to the lives of others or taking some kind of purpose-related action in response to the experience. Five interviewees described coping strategies that related to their purpose, including a girl who started an anti-bullying project to cope with being bullied: "[My friend] … and I used to get bullied. We didn't like it, so we banded together and said let's stop this." Only two interviewees described positive reframing as a response to these experiences. For example, a girl who wanted to be a doctor to help sick patients said, "I love the success stories of how a doctor comes … and saves the day …. Then … they're not sick anymore. They're happy …. I would like to do that, put a smile on somebody's face."

In only two cases were we able to see purpose existing prior to an adverse experience and possibly helping the interviewee cope with the experience. Both had a strong sense of purpose related to family that supported a proactive response to adversity. This does not mean that purpose was not previously existing in all other cases, only that it was not reported as such by the interviewees. Therefore, the interviews clearly showed that purpose can be triggered by an adverse event but provided little insight about the possibility of pre-existing purpose as a support for dealing with adversities that arise.

4.2.3. Purpose and indirect experiences with adversity

Among purposeful interviewees, 80% ($n = 16$) expressed concern for someone else who had negative experiences. Some described adversity experienced by someone else that also affected them, such as a sibling with chronic illness. Others reported concern or empathy for someone they did not know but could potentially identify with, such as immigrants from their home country who were deported. All of the 12 purposeful interviewees who reported direct experience with adversity also reported concern for others' adversity. Some of these recognized that their own difficult circumstances were shared with others, such as a daughter who was keenly aware that her single mother struggled to provide for their family. These respondents found purpose in helping others deal with adversity, either by helping the person close to them who was struggling, or by generally striving to be the kind of person who helps others. Those who only reported adversity experienced by others (without direct personal experience with adversity) did not

make any connections between that adversity and their purpose.

4.2.4. Interview case studies

The following three cases illustrate how purposeful interviewees described the relationship between purpose, adversity, and coping.

4.2.4.1. Sarah: Writing as a way of coping and finding purpose. Sarah focused on her family, their troubles, her pursuit of healing through writing and school achievements, and how those activities also constitute her purpose to inspire others. When asked what was most important to her, she responded, "trying to get over the pain of my dad passing away," and went on to explain that her mom has been "isolated" and "lost ever since [he] passed away." Sarah struggled with her mom's withdrawal and said she felt "like some things are more important in her life than me." She wrote to cope: "I was just holding all the pain in, so [writing] was the only way to escape the pain inside." Sarah described beyond-the-self goals that emerged in the wake of adversity, specifically, that she wanted her writing to help others. "I've always wanted to use my writing to speak up and support the people in the world that have less than me." She enrolled in a playwriting class to make her writing more "powerful." Sarah also sought out ways to help her mother overcome grief over her life decisions: "[My mom] had me when she was 20, so … she never got to college. I feel like if I get there for her, then … she'll have accomplished something in her life." When asked about the connections between the important aspects of her life, such as writing and her education, Sarah said, "I think it all ties back to my dad passing away," suggesting that her purpose emerged in response to adversity.

4.2.4.2. Justin: Purpose in coping with family illness. Justin's tight-knit, values-centric family inspired him to seek purpose in response to adversity, which was seen in his ambition to be a medical engineer. His aunt and grandpa passed away from diabetes, and his younger brother currently suffers from it. He responded to his brother's diagnosis proactively: "It makes me really care for him …. I try to make sure … he doesn't die from it." Justin's interest in medical engineering arose from coping with his brother's illness. He honed his engineering skills by practicing at home, for example by making a portable charger inside an Altoids can, hoping to eventually create inexpensive prosthetic limbs. When asked what got him interested in developing prosthetics, Justin said, "If I can help my brother, then I should try to help my world. If it's a place I live in, and we all share it, then we should share our common love and goal." Coping with his family's diabetic history blossomed into a purpose for Justin.

4.2.4.3. Jayla: Finding purpose in coping with bullying by helping others. When asked what is most important to her, Jayla said, "I have a very, very strong opinion about anti-bullying." She created a Twitter account dedicated to helping teens who experience bullying and mental health challenges. Jayla's motivation for starting the site was her own experience being bullied in elementary school. "It's something that I like to help out with because I know that [bullying] can result in negative things, like suicide …, and I don't want that to happen." She showed her commitment to anti-bullying by regularly interacting with her followers to offer support. For her, that interaction was a source of support for coping. "One thing I like about Twitter is the people that I follow, if they're down, I cheer them up, and if I'm down, they cheer me up." Thus, she connected her purpose to her own experience with bullying and coped with that experience by taking action to have a positive impact on others. Jayla saw her own experience with bullying as a resource to help others facing similar challenges and showed that she feels empowered to encourage other youth from a place of empathy. Her adversity acted as a catalyst for her purpose, inspiring and enabling her to help many other youth facing their own adversities.

4.3. Integration of quantitative and qualitative findings

In the survey data, purpose and positive reframing vary together within individuals over time, and pre-existing purpose might predict a tendency to use positive reframing in response to negative experiences. Just having a beyond-the-self (BTS) life goal orientation was not associated with positive reframing, rather it was those who were fully purposeful, engaged in pursuing a meaningful BTS goal, who also reported using positive reframing in response to adversity. Although survey findings do not indicate a strong relationship between BTS goal orientation and positive reframing, the interviews with purposeful adolescents suggest that their concern for others is essential to their process of coping with their own adversity. Rather than reframing their own adversity in a positive light, they described appraising their own role in ameliorating the adversity experienced by others, recognizing that their negative experience gave them something to offer others, and in doing so found positive and proactive ways to cope with their own negative experiences.

5. Discussion

We conducted this study to deepen our understanding of the relationship between purpose, adversity, and resilience among young adolescents. We used a definition of purpose that integrates multiple dimensions—a personally meaningful life goal, beyond-the-self orientation to the goal, and action in pursuit of the goal.

In our analysis of the relationship between purpose and positive reframing coping among young adolescents we found that purpose and positive reframing varied together over time within each individual; however, there was not a significant association between previously existing purpose and subsequent coping. Thus, purpose and positive reframing were related, though it was not clear whether one was driving or predicting the other. These findings suggest two possible relationships between purpose and positive reframing. One possibility is that the processes involved in purpose development and positive reframing coping are similar.

Another possibility is that there are underlying factors that predispose someone to both develop purpose and respond to adversity with positive reframing.

Next, we analyzed interviews conducted with a subset of the survey sample to get a more nuanced picture of the relationship between purpose and adversity. Adversity was common among interviewees who were purposeful. Almost purposeful interviewees described developing purpose in response to adversity, with the negative experience acting as a trigger or inspiration for doing things that would positively impact on others. This finding, combined with the survey results, suggests that some people might be more readily inclined to find meaning in and benefits from life's challenges.

What are the underlying factors that might drive both purpose development and positive reframing coping? Because our construct of purpose integrates three distinct dimensions, we can start by examining these dimensions for potential factors that might also drive positive reframing coping. First, reflecting on personal values and what they mean to one's sense of self can be an important driver of self-transcendent purpose (Malin, Ballard, & Damon, 2015). The process of reflecting on and reappraising one's core values is also associated with effective coping and post-traumatic growth (see Calhoun, Tedeschi, Cann, & Hanks, 2010 for a review). It might be, therefore, that purpose and positive reframing are connected by the process of reflecting on what one finds most meaningful.

Second, purpose is a future-directed goal that drives action. Accordingly, sense of purpose is associated with traits that indicate a positive and energetic outlook on the future, such as hopefulness, optimism, and extraversion (Anglim & Grant, 2015; Burrow, O'Dell, & Hill, 2010). Adversity research suggests that people who exhibit openness and extraversion are more likely to view stressful events as turning points that can lead to personal growth (Jayawickreme, Brocato, & Blackie, 2017), and the traits of hope and optimism may be associated with post-traumatic growth (Ho et al., 2011). Together, this research indicates that our results might be explained by underlying traits associated with a positive outlook and a proactive response to life's challenges.

Third, the BTS dimension of purpose can develop out of the capacities for empathy and perspective-taking (Malin et al., 2014, 2015). A related capacity to understand the mental states of others—*theory of mind*—correlated with an active coping response among children who experienced a traumatic earthquake (Cadamuro, Versari, Vezzali, Giovannini, & Trifiletti, 2015). The authors argued that having the capacity to understand other's mental states makes it possible to interpret and influence other people's behaviors, which makes it easier to cope in stressful situations. Therefore, positive reframing and purpose might be connected through the capacity to understand the perspectives of others. This could explain why some interviewees found purpose when they identified another person's adversity along with their own and coped by doing something to address the other person's adversity. In that case, supporting purpose development by nurturing perspective taking may predispose young people to have a positive and active coping response should adversity strike.

6. Limitations

As with most studies of childhood and adolescent adversity, our study identified a limited set of negative experiences to indicate exposure to adversity. The items in the LEC have been identified in previous research as indicative of adolescent adversity because they are major events that cause disequilibrium in adolescents' lives and typically require a coping response (Compas, 1987). However, our study is limited in the extent to which it might generalize to adverse experiences that are not included on the LEC.

Although the survey data were longitudinal, we did not measure any timepoints that pre-dated the presence of purpose and positive reframing in our sample and we did not manipulate either construct in our study; therefore, our data did not allow for analysis of directional or causal relationships between purpose and positive reframing coping. Future research should examine the potential underlying factors to move toward a directional model or use a design that can test for causal relationships.

Our qualitative data was limited because we did not ask directly about adversity. By not asking directly about adversity we were able to learn about experiences that were sufficiently weighty in the interviewee's mind to be mentioned spontaneously. However, we cannot know what experiences we did not hear about because we did not ask. Future research should take a more direct approach to asking interviewees about purpose, adversity, and coping.

7. Conclusion

Purpose, when defined as a meaningful intention to contribute to the world beyond the self, is how we make a sustained commitment to live in accord with the values at the core of our identity. Purpose provides a strong source of direction in life and can drive healthy identity formation, and because of that, it might be that purpose is the aspect of identity that works as a resource in the face of adversity. This study found that purpose is associated with positive reframing coping, which is an adaptive and effective approach to overcoming adversity. We also found that purpose can emerge as a response to adversity, as purposeful young people are able to describe their purpose developing in response to life challenges they faced. We can hypothesize, based on our mixed-methods findings, that there are underlying traits or processes that can drive both purpose and positive reframing. Further investigation of these underlying factors and their role in driving purpose and coping will be useful for practitioners seeking asset-based approaches to supporting youth who have been exposed to adversity.

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